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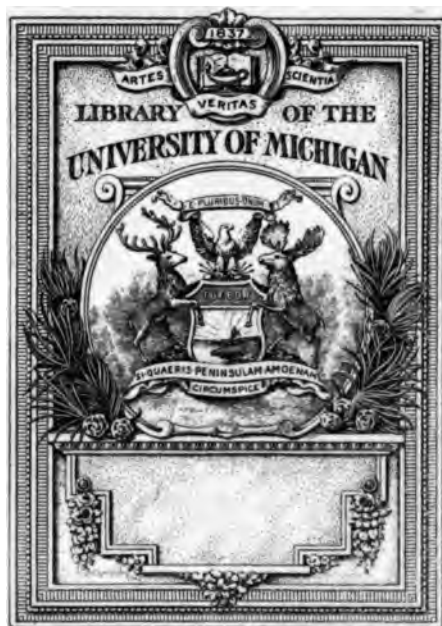
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CIRCULARS OF INFORMATION

OF THE



BUREAU OF EDUCATION

FOR

THE YEAR 1873.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1874.

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PREFATORY NOTE.

Published as "Circulars of Information," and so distributed to educators and teachers, the material included in this volume has seemed to be worthy of being bound in a form better fitted for preservation. It has often been a question whether the matter prepared on a topic should be published while fresh, or withheld till a greater degree of completeness should be attained. Especially was this the case with circulars Nos. 3, 4, and 5 of this series. Still, circumstances seemed to call for early publication.

Circulars 3 and 5 contain such information respecting college-commencements as was obtainable by the Office either through the public press or by the contribution of college-presidents. In many cases, the absence of these officials from home during the summer-vacation prevented reply to the inquiries sent till too late for insertion in the circulars referred to.

Circular 4 was prepared specially with a view of presenting to educators, *littérateurs*, and scientists some notion of the published labors of professors in our leading colleges for a limited period of time. It was also believed that this pamphlet would serve as a specimen of the work to be done in one direction of literary and educational record, with the design of preparing, at some future time, a series of similar but more complete lists of publications by the learned men of our country, in philology, science, et cetera.

Each circular has its separate title, table of contents, to which readers are referred, and numeration of pages. Beginning with circular No. 2, each page is also numbered consecutively at the foot, from 67 to 441. The pages of circular No. 1 have only the upper numbering, from 1 to 66.

Attention is invited to the following important errata:

Page 202: Omit paragraph headed "*Honorary degrees.*"

Pages 212-214: Opposite Lafayette College omit *all numbers relating to honorary degrees.*

Page 278: First column, read Garrison instead of "*Gerrison.*"

Page 278: Second column, omit "*Holmes (Oliver Wendell)—continued,*" and read Lowell (James Russell).

Page 419: Read A. B. honorary, 3, instead of 5; A. M. honorary, 112, instead of 114; D. D. honorary, 125, instead of 130; LL. D. honorary, 82, instead of 84; and total honorary, 365, instead of 376.

Pages 426, 427, and 434, 435: Opposite Lafayette College, omit *all numbers referring to honorary degrees.*

UNITED STATES BUREAU OF EDUCATION, }
Washington, 1874. }

CIRCULARS OF INFORMATION.

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 1—1873.

HISTORICAL SUMMARY AND REPORTS ON THE SYSTEMS OF
PUBLIC INSTRUCTION IN SPAIN, BOLIVIA,
URUGUAY, AND PORTUGAL.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1873.



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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., April, 1873.

SIR: I have the honor to submit the following Reports on Education in various foreign countries, which contain information of interest to educators.

The historical summaries of the educational efforts in Spain and Portugal are considered essential to a correct understanding of their present educational status.

The official reports furnished to this Office by the courtesy of the Brazilian minister have been carefully translated. Their publication seems desirable, as they contain information not otherwise accessible.

The papers herewith submitted consist—

First. Of an Historical Summary of Education in Spain, translated from Schmid's *Educational Cyclopedia*.

Second. Of a Report upon Education in Bolivia, made to the Brazilian government by the Brazilian minister at La Paz, in April, 1872.

Third. Of a Report upon Education in Uruguay, made to the Brazilian government by the Brazilian minister at Montevideo, in March, 1872.

For these two reports I am indebted to Concilor A. P. de Carvalho Borges, envoy extraordinary and minister plenipotentiary of Brazil.

Fourth. Education in Portugal. The historical summary taken from Schmid's *Educational Cyclopedia*; the report on primary education, furnished by Mr. J. C. Rodrigues, editor of *O Novo Mundo*, an illustrated Portuguese journal published in New York; the account of the system of higher instruction is derived from Schmid's *Educational Cyclopedia* and from the official report of the Brazilian minister at Lisbon.

I request your approval of the publication of these papers as a circular of information.

Very respectfully, your obedient servant,

JOHN EATON, JR.,
Commissioner.

Hon. COLUMBUS DELANO,
Secretary of the Interior.

Approved and printing ordered.

C. DELANO,
Secretary of the Interior.

EDUCATION IN SPAIN.

EDUCATION IN SPAIN.

INTRODUCTION.

Spain, after having remained for centuries in a state of lethargy, has, within the past few years, made noticable progress in general enlightenment and civilization.

That her former state of indifference was not her normal condition, but that on the contrary there are in the Spanish nation elements capable of the highest development, which need only the warming and enlivening sunshine of a wise and liberal government, is shown in the recent reformatory movements, and will be confirmed by a brief review of her educational history during the past ages.

In the following historical summary the excellent article contributed by Professor Le Roy, of the university at Liège, Belgium, to Dr. Schmid's *Educational Cyclopædia** has been chiefly consulted.

HISTORY OF EDUCATION IN SPAIN.

The oldest known inhabitants of the Spanish peninsula were the Iberians. In pre-historic times Celtic nations invaded the country from the north, and after long and sanguinary wars, gradually intermingling and intermarrying with the natives, formed the nation of the Celtiberians. The country was first made known to the rest of the world by the Phenicians, who founded colonies, of which Cadiz was the most important. They were followed by the Greeks, who founded the colony of Saguntum; and the Greeks, in their turn, by the Carthaginians, who founded New Carthage, now Carthagera. During the Punic wars the Carthaginians, who had gradually subjugated the greater part of Spain, were driven out by the Romans, and Spain became, at least in name, a Roman province, for the conquest of the whole peninsula was not completed till A. D. 19.

THE RULE OF SERTORIUS.

In the year 83 B. C., Sertorius, a Roman general, after the first civil war, fled to Spain; with him we may appropriately begin our educational history. Landing in Spain, he found the last scattered remains of the party for which he had fought in Italy. He succeeded in gain-

* *Educational Cyclopædia*, (" *Encyclopædie des Erziehungs- und Unterrichtswesens*,") edited by Dr. K. A. Schmid, Rector of the Gymnasium at Stuttgart, 81st part, 1871.

ing the confidence of the native chiefs to such a degree that soon he became the recognized ruler of the country. In order to strengthen his throne and to accustom the natives to a regular form of government, he determined to transplant the Roman institutions to Spain; he formed a Senate of three hundred members, and introduced the military practice of his native country. But this far-seeing man did even more; he assembled in Osca (Huesca in Aragon) a large number of young men of the best families and had them instructed by competent teachers in the science and literature of Greece and Rome. He personally superintended their studies, and from time to time held examinations, at which he awarded prizes to the best scholars. Thus we read in Plutarch that he gladdened the hearts of the fathers, when they saw their sons in their togas lined with purple and the "*bullæ*" suspended from the neck. This was the distinction won at school and at the same time a pledge of faithfulness to the benefactor of Spain. It soon, however, became evident that in instituting this school the design of Sertorius was just as much to secure hostages as to raise the standard of education, and a national reaction began to set in, which finally culminated in open revolt. In the suppression of the rebellion Sertorius made himself entirely unpopular, for he let his vengeance fall upon these youths, some of them being killed and others sold as slaves.

ESTABLISHMENT OF THE ROMAN POWER.

If at that time the *Æneid* had been written, the Spaniards might well have applied the "*Timeo Danaos*" to themselves. Perpenna's dagger freed them from the murderer of their children. Perpenna soon had to make way for Pompey, and Rome cast a broader shadow than ever over Spain. But it took all the energy of the last-mentioned general, and finally the terror that preceded Cæsar's arms, to bend underneath the Roman yoke those nations which then, as to-day, imbibed the spirit of provincial independence with their mother's milk. On account of this marked personal independence their revolts were always wanting in unity of purpose, and therefore easily suppressed. The consolidation of the Roman power found, on the other hand, a powerful help in the prevalence of the Latin language, which during the time of the Scipios had first been introduced in Spain, and which after the expulsion of the Carthaginians had spread with incredible ease and rapidity even as far as Bætica, leaving the original idioms to the most inaccessible mountain regions. According to Strabo a Spaniard could scarcely be distinguished from a Roman in the time of Augustus. During the lifetime of Cicero several poets from Corduba were admired in Rome; but this close observer found yet in their pronunciation "*pingue quiddam atque peregrinum*," (something heavy and foreign.) The blending of the two nations became so complete, however, that it may be said without exaggeration that Spain, with the exception perhaps of Galicia and Asturia, which were never completely subjugated, had become the most

Roman of all the provinces of the empire. An allusion to these Cantabrian wars is found in Juvenal, (*Satire viii.*) where he says : "*Horrida vitanda est Hispani*," &c. As regards the portions bordering on the Mediterranean, especially Andalusia, Roman influence became all-powerful ; as a direct consequence of this influence a large number of Spaniards came to Rome every year, and, as the Greeks had done before them, surpassed their conquerors on the field of literature and science.

SPAIN DURING THE FIRST PERIOD OF THE ROMAN EMPIRE.

Latin eloquence declined in Italy from the first days of the empire ; natural eloquence was supplanted by rhetorical trickery. Poetry shone in its greatest splendor during the reign of Augustus. It was a reflection of the bright light that had been kindled in Greece, but during the reign of Tiberius it lost its natural beauty and its serene gracefulness ; men of deeper thought sought refuge in stoic philosophy, while the governing power found its chief support in the thoughtless multitude. It flattered their insatiable desire for sensual enjoyments, and built the Coliseum, the true temple of Cæsarism. It is a fact worthy of note that in those times of trials, of terrors, and of insane orgies, Spaniards represented in Rome the spirit of old Rome ; and the accession to the throne of two Spanish nobles, Trajan and Hadrian, once more arrested the fatal course of the empire hurrying to destruction, and made a brief but brilliant era in the history of Roman art and literature.

FAMOUS SCHOOLS AND TEACHERS DURING THE FIRST CENTURY OF THE CHRISTIAN ERA.

The schools of Corduba seem to have been particularly flourishing during the first century of the Christian era. From these schools there came to Rome the orator M. Porcius Latro, among whose pupils were men like Augustus, Mæcenæ, Agrippa, and Ovid ; his intimate friend M. Annæus Seneca, the father of the philosopher, and L. Annæus Seneca himself, whose teacher was Hyginus, likewise (at least according to the best authorities) a Corduban. Seneca's nephew Lucan was educated in Rome, but indirectly he was, through the intercourse with his uncle, under a strong Spanish influence. The poet Sextilius Henna, the public reader Victorius Statorius, and many others of less note might be mentioned, but they all fade away before more famous names, which show how far education had spread throughout the whole of Spain. Quintilian, the author of excellent educational works, and of the most complete treatise on rhetoric among the ancients, was a native of Calagurris, (Calahorra in the present Spanish province of Logroño.) It is well known how successful he was as a teacher of eloquence, first in Spain and afterward in Rome, but it is perhaps less generally known that he was the first who drew a salary as such from the government. Martial, the epigrammatist, born at Bilbilis, (Calatayud in the present province of Saragossa ;) Columella, the agronomic writer from Cadiz ;

Pomponius Mela, the geographer, from the neighborhood of Mellaria in Bætica; Silius Italicus, the poet; Florus, the compiler; Antonius Julianus, and Herennius Senecio, the scholars of Quintilian; and finally Voconius, the friend of the younger Pliny. As a man of learning and patron of the sciences and arts, the Emperor Hadrian may likewise claim a place among the famous names. Stars of the first magnitude were rare among the constellations of the empire, but it must be borne in mind that the golden age was irrevocably past. The language of Cicero had lost more of its original purity and elegance in Spain than in Italy, and many of her later writers excelled in nothing but a bombastic style—an artificial, exaggerated mode of expression; in high-flown essays on insignificant subjects; in the affected severity of the stoics, which but little agrees with a refined æsthetic feeling. But in spite of this it is nevertheless true that the Spaniards have a great share in the literary *renaissance*, which characterizes the period between the reign of Vespasian and the time of the Antonines.

EARLY COURSES OF INSTRUCTION.

Columella's book *De re rustica* was introduced into the Spanish schools as a text-book, and thus a real course of agriculture was combined with instruction in grammar, rhetoric, and law. During the reigns of the later emperors these studies assumed more and more a cyclopedic character, of which the work of the elder Pliny is a striking example; the same, but in another direction, may be said also of the *Institutiones* of Quintilian. At this time shorter text-books, epitomized from larger works, were introduced.

The social change had also produced new wants; attention was dispersed over a large number of subjects; a certain variety of knowledge, even though superficial, had become a necessity for an educated man, and, as is always the case in nations that have passed their meridian height, and are approaching a state of dissolution, mere book-learning was esteemed more highly than true genius.

INTOLERANCE OF THE SPANISH CHURCH.

The introduction of Christianity did not bear any fruit till the downfall of the Roman empire. Even during the early ages the Spanish Church had her martyrs, for scarcely did she feel herself master in her dominion when in her annals we find an act of intolerance: the beheading of Priscillian, the heretic, A. D. 385, at the instigation of the bishops Ithacus and Idacus. It must, however, be mentioned in honor of the Spanish clergy at that time that this act produced the greatest indignation against the two bishops. The Spanish clergy were not as yet animated by the sanguinary religious zeal which in later centuries became one of their characteristics.

REIGNS OF THE FIRST GOTHIC KINGS.

New trials were in store for the Spanish Church during the reigns of the first Gothic kings, who were Arians. But when the period of forced tolerance came to an end, when Leovigild and Reccared had been converted to the orthodox Roman Catholic faith, the Church amply indemnified itself. Royalty in Spain, more than in any other country, had a religious character, and the doctrine of the "worldly arm" was there carried out to its fullest extent. It is but natural that all public institutions, and the education of youth more so than any other, should have felt this change.

EMINENT CHRISTIAN TEACHERS.

The early Spanish Christians had several eminent teachers and educators. Religious poetry was also in high favor among them, and men like Juvenecus, Rufus, Festus, Aquilius Severus, and, above all, Prudentius, the opponent of Symmachus, deserve to be mentioned. As historian Orosius distinguished himself. How far already do we seem to be from the century of a Lucan, a Seneca, a Quintilian! But the darkness was to become still more dense.

INVASIONS BY THE VANDALS, SUEVIANS, AND GOTHs.

Effeminated by a long period of peace, the Spaniards were not able to defend themselves against the Vandals, who invaded the peninsula and cruelly devastated it for two years. They were followed by the Suevians, who finished the work of devastation. Many cities were entirely destroyed, and their inhabitants cruelly murdered. Spain had scarcely begun to recover, when the Visigoths made their appearance, just as warlike, but, fortunately, less savage than their predecessors. It is true that they likewise murdered and devastated, but they built up again, and their social institutions were far superior to those of the other invading nations.

DIFFERENCES BETWEEN THE GOTHs AND THE SPANIARDS.

As long as the Goths remained Arians there existed a broad gulf between the conquerors and the conquered. Beside this they were entirely different in natural disposition, language, historical traditions, and even in dress. The Spaniards, of middle size, with bronzed faces and black eyes, formed a striking contrast to the sons of the north with their tall, powerful figures, blue eyes, and light complexion. The former spoke Latin, wore the toga, and had their hair cut short; the latter spoke the language of Ulfilas, wore furs, and would have considered themselves dishonored if their heads had been deprived of any hair. The Spaniards had the law of Theodosius; the Goths had no written laws whatever, and hence considered skill in arms the only desirable object, while the Spaniards had an appreciation of arts and sciences. The irresistible

power of mental superiority was so great that the Gothic kings soon discovered that in the appointments to important official positions they would have to look chiefly to the Romans if their social fabric was to rest on any secure foundations. The real amalgamation of the races, however, did not begin till religious faith no longer formed a dividing line, and when the Visigothic law, at last written and codified and supplemented from the Theodosian code and the canons of the national council, could be introduced among the whole nation.

Guizot has made the remark that the legislation of the Visigoths, in contradistinction to those of other barbarous nations, was "real" and not "personal;" i. e., based on the landed estate and not on the nationality of those who were made subject to it. In the introduction of this civilizing principle of the equality of men before the law, he justly sees the influence of the "philosophers of those ages," viz, the clergy. The revival of civilization in Spain was largely due to the predominance of the theocratic principle. This ascendancy of mental and moral over mere brute force was certainly beneficial, but it had also its dark side. The kings, guided by the clergy, introduced numerous measures tending to mental progress and to milder customs, with one exception: religious intolerance was legally sanctified and raised to the blindest fanaticism; and the fact cannot be denied that this traditionary policy, which has been followed during all the successive governments, and which, even at the present day, has not yet been entirely rooted out, has been the chief cause of the political decline and the misfortunes of Spain.

INTOLERANCE TOWARD THE JEWS.

The inexorable rigor of the inquisition in later years was foreshadowed by the cruelty with which the Visigothic laws treated the Jews, and in the persecutions which King Sisebut, an otherwise moderate man, instituted against this unfortunate race. The cruelties practiced were so great that the Council of Toledo condemned them, but without making any redress. The consequence was that many Jews emigrated, and the temper of those who remained became so embittered that they openly assisted the Moors in their invasion of Andalusia.

EDUCATION DURING THE SEVENTH CENTURY.

It can easily be imagined that the troubles of the fifth century, and the invasion of the Goths, dealt a deadly blow to education; the clergy alone kept its lamp burning in the midst of the dense darkness. Three names especially deserve to be mentioned, the three brothers Leander, Fulgentius, and Isidorus, of Sevilla, in the seventh century; all three well versed in Hebrew, Greek, and Latin literature. Isidorus wrote a work entitled the *Etymologicon*, (*Or. num. sive Etymologiarum, libri xx.*) a real cyclopedia of useful knowledge. This work, left unfinished by him, was completed by Bishop Isidore of Saragossa, and

was used as a text-book till the twelfth century. The table of contents will give some idea of the work: Book 1. Grammar and history. 2. Rhetoric and dialectics. 3. Arithmetic, geometry, astronomy, and music. 4. Medicine. 5. Law. 6. Book-copyists and clerical offices. 7. Of God. 8. Of the church and synagogue, heresies, schisms, sorcerers, and heathen. 9. Of languages. 10. Etymologies, alphabetically arranged. 11. Of man. 12. Of animals. 13 and 14. Of the world and the universe. 15. Of towns, houses, and landed estates. 16. Of metals, stones, weights, and measures. 17. Of agriculture and horticulture. 18. War and games. 19. Architecture; naval affairs, clothing. 20. Food and various household utensils.

Bishop Braulio studied natural history, but his work on this subject only shows how low the schools of those days had sunk. It cannot be denied that the clergy were intent on saving the threatened civilization. But their aim was exclusively a religious one, and science had in their opinion only value in so far as it served as an aid for the studies of the clergy. The chief object was to influence the barbarians so far as to accept the civilizing doctrines of Christianity, and in order to further this end a more orderly state of society had to be organized, and the Church, at that time the only keeper and guardian of science, could only appreciate that social condition in which *she* was to be all-powerful. Her natural aim was to insure the complete victory of spirit over matter. She alone was able to pave the way for this victory, and she was conscious of this. Hence her care for the education of a spiritual army, and the resolution of the Second Council of Toledo, according to which those young men, who by their parents were destined for the Church, were confided to the care of priests located in those cities where bishops had their seats. But all this did not constitute a proper school. In order to become a priest or bishop, it was not necessary to have any general education; all that was required was to be acquainted with the Holy Scriptures, the rules of discipline, and the ceremonies of divine worship. If any of the scholars showed special talents, the bishops endeavored to give them a better education. With regard to the instruction which, during the reign of the Visigoths, was given to the mass of the children, history is silent; it is, however, supposed that there existed a course in catechism for them, because a decree of the Council of Toledo, of the year 694, ordered the children of Jews, when they had reached the age of seven years, to be taken from their parents in order that they might be instructed in the Christian religion.

Gradually the Gothic kings had begun to take pleasure in mental improvement; they commenced to protect and favor authors, had rare manuscripts copied, and increased their libraries considerably; but the sudden invasion of the Moors brought all their plans to a premature end, and on the ruins of the Gothic kingdom founded an empire which, as soon as it was firmly established, took a pride beyond all else in furthering science, art, and literature, on a new and totally different basis.

THE INVASION OF THE MOORS.

In direct opposition to the Germanic nations, the Moors were prompted to their conquering expeditions by religious zeal. Instead of allowing themselves to be converted by the conquered people, they advanced everywhere, "the sword in one hand and the Koran in the other;" they were, however, conscious of the fact that violent measures, in matters of conscience, would be fraught with danger for their empire. Thus the Christians were permitted to live undisturbed at Cordova, and could freely worship according to their religion, with the only condition that they would show respect to Mohammedanism. The church- and convent-schools were not closed, but public offices were given to Mohammedans exclusively; intermarriage between Christians and Mohammedans were formed, and the marked advantage and benefits accruing to renegades quietly spread Mohammed's doctrines wherever the Moorish empire extended. The treatment of the Jews was as mild as that of the Christians. In order to establish their empire more firmly the Moors chiefly relied on their own mental superiority and on that material welfare which they brought to every country they conquered. Already in their eastern home they had become acquainted with the writings of the Greeks, and although many of these writings had become tabooed as dangerous to the religious belief of the faithful, Aristotle, Theophrastus, Euclid, Ptolemæus, and Hippocrates were well known in Damascus and Bagdad. When Cordova had become the center of an independent empire, it became heir to the rich mental heritage of the above-mentioned eastern capital, which, after the glorious reigns of Harun-al-Rashid and Almamun, (762-833,) soon began to decline and became a prey to effeminate and demoralizing luxury.

THE REIGN OF HASHEM I.

The second caliph of the Moorish empire in Spain, Hashem I, the contemporary of Harun, initiated the age of modern mental development. He protected men of learning, and founded schools to which Christians were admitted and were taught Arabic, a measure which tended largely to bring the two nations into closer contact.

THE REIGN OF ABDERRAHMAN II.

Abderrahman II. continued the work of his predecessor. The schools, in a large number of cities, were liberally endowed from the government treasury; three hundred orphans were boarded and educated, free, in the school connected with the great mosque at Cordova. The caliph was an enthusiastic admirer of poetry, and his own impromptu poems were highly praised. He was very fond of music, and, by the most liberal offers, induced the famous Persian musician, Ali-ben-Serrab, to come to Spain and found a school of music at Cordova. Magnificent

buildings rose everywhere, palaces, mosques, bridges, aqueducts, baths, and fountains; the arrangements for watering the plain of Cordova, carried out on the most gigantic scale, spread fertility and happiness, and made the capital of Andalusia an earthly paradise. The court set an example of refined and elegant living, and mental enjoyments alternated with chivalrous games and festivals of every kind.

THE REIGN OF MOHAMMED I.

Mohammed I., the son and successor of Abderrahman II., showed less zeal in the cause of arts and sciences than his father. But the movement had begun and took its natural course of progress. In Cordova, the house of the learned Jahje-el-Laiti, who in his youth had twice traveled in the East, and who, by his teacher, the famous Malik-ben-Anes, was called "the mind of Spain," and "the wise Andalusian," was thronged by scholars from far and near, like the lecture-hall of a public university.

THE REIGNS OF ABDERRAHMAN III. AND ALHAKEM II.

During the reigns of Abderrahman III. (912-971) and Alhakem II. (971-976) the Moorish empire in Spain reached its zenith of glory and splendor in every respect. Never before had men of learning, poets, and artists enjoyed such favor; never before had larger sums been expended for libraries and scientific collections of every kind. Abderrahman III., who was a man of the highest attainments, succeeded in inspiring his whole court with his own love of knowledge. The house of his grand-vizier, Abu-Aamir-ben-Achmed-ben-Said, became the rendezvous of all the famous men of the empire; poets there read their works, and important scientific questions were discussed as in our academies. Medicine, natural sciences, mathematics, and astronomy were the favorite studies. Alhakem II. crowned his father's work by having fine copies made of all the works of the best ancient and modern writers, (his library is said to have contained upward of 400,000 volumes,) by inducing men of learning from Spain and foreign countries to settle at Cordova, and by protecting the philosophers, who could not now pursue their studies in peace without fear of being murdered by religious fanatics. As a matter of course the schools, under such enlightened rulers, were in a very flourishing condition, and education of all grades was thoroughly organized. Abderrahman even established high-schools for girls. The scholars in these schools were under the care of female teachers, who instructed them in general knowledge and explained the works of the poets to them. Alhakem's care for education extended to all ages and to all classes of society. The primary schools were, according to trustworthy authorities, numerous and excellent. In Andalusia it was very difficult to find a person who could not read and write, while in Christian Europe the highest classes of society, unless they were in

the service of the Church, were utterly ignorant in this respect. Grammar and rhetoric were also taught in the schools.

FREE SCHOOLS.

Still, Alhakem was of the opinion that education was not yet sufficiently general; he therefore established in Cordova twenty-seven schools, where children of indigent parents were instructed free of charge, and paid the teachers out of his own private treasury. The University of Cordova in those times was the best in the whole world. In the great mosque—for there the lectures were delivered—Abu-Bekr-ibn-Moawijah lectured on the learned questions regarding Mohammed's person and doctrine; Abu-Ali-Kâli, from Bagdad, lectured on the ancient Moors. His course of lectures, which he afterward published himself under the title *Amâli*, i. e., Dictations, contained an almost incredible mass of the most interesting facts concerning the history of the ancient Moors, their proverbs, their language, and their poetry. Grammar was taught by Ibn-el-Kutiah, who was justly considered the most learned grammarian of Spain. Other sciences were represented by no less famous professors. The number of students was several thousand. Most of them studied what was called "*Fikh*," i. e., theology and law, for this knowledge formed the stepping-stone to the best offices in the government.

THE REIGN OF HASHEM II.

Not only Cordova, but also Granada, Sevilla, Xativa, Valencia, Jaen, Murcia, Almeria, Malaga, Velez, in the tenth century had academies and high-schools which were opened for Christians and Jews as well as for Mohammedans. The Jews had at the same time established special schools for the study of their sacred writings. The model of all these schools was the Jewish academy at Cordova, founded by Rabbi Mosheh, a native of Persia, whose fame attracted many learned men from North Africa, and even from distant parts of Asia. Hashem II., the son of Alhakem II., took the Jews under his special protection, had the Talmud translated into Arabic, and himself took instruction in the Mishnah, (the first part of the Talmud.) The exact sciences were studied with equal zeal by the Jews and by the Moors; all barriers had fallen, and people of the most widely differing religious creeds lived peaceably together, united and protected by a spirit of religious tolerance almost unexampled in history. This state of affairs did not last long, but its beneficial effects could be felt amid those political storms which shook the throne of the caliphs to its very foundation. This was the reason why Hebrew learning and Hebrew literature did not reach its greatest height till the twelfth century, the century of Abenesra and Maimonides. But the influence of religious fanaticism, which, since the usurpation of Hâdshib-Almansur began to grow strong in Spain, was so great,

that the writings of Maimonides, who otherwise in his views showed himself far ahead of his time, are full of the most bitter hatred against all persons of different religious faith from his own. Almansur, toward the end of the tenth century, initiated the period of reaction, by publicly burning all the literary treasures which Alhakem had collected, with the exception of the theological, grammatical, and medical works. Philosophy was the special object of persecution, but, as Renan truly remarks, "all the efforts to suppress it only gave it new life." The golden age of Alhakem has left no famous names to posterity, but the names of men like Avempace, Abubacer, Avenzoar, and Averroes, who were hunted down by religious maniacs, are inscribed in letters of gold on the true roll of human fame.

THE REIGN OF HADSHIB.

It is but just to say that the intolerance of Hadshib was chiefly caused by a desire to gain the popular favor, in order to maintain himself on his usurped throne. Personally he esteemed men of learning, and historians tell us that in times of peace his palace resembled an academy. He took pleasure in visiting schools and academies, took a seat among the scholars, and did not allow the lesson to be interrupted by his appearance. He generously rewarded the zeal of scholars and teachers, and took great care only to have the best and most learned men appointed as priests and judges. But the civil wars and the conflict with the Christians, which broke out at his death, paralyzed all those efforts for education of which he had been the last promoter. Even as late as the twelfth century Arabic and Jewish science had some famous representatives, but the blight of religious intolerance killed most of its fruits, and the Christian nations were destined to mature the seed of ancient learning. It seems to have been the historic mission of Mohammedanism to preserve the rich inheritance of antiquity through the Dark Ages, and to transmit it safely to Christian civilization.

GENERAL CHARACTER OF THE MOORISH PERIOD.

The genius of the Moorish nation showed itself on the one hand in its most brilliant colors in poems and romances, in a play of fancy, and in proverbs which contained their code of social morality, and on the other hand in natural sciences, especially chemistry and botany, and in algebra, astronomy, and medicine. It may suffice to mention in this place, that Jews from Cordova carried the science of Avicenna beyond the Pyrenees, and became the principal founders of the famous school of Montpellier. The predominating characteristic of the Moorish scholars consisted in an extreme subtilty, which, applied to religious questions, showed itself in all manner of caviling discussions, particularly after the writings of Aristotle had made them acquainted with the strictly formal method and with a system of metaphysics which exactly suited

their minds. Thus they prepared the way for scholasticism, and, having themselves become slaves to an immovable formalism, set a dangerous example to their Christian neighbors. Their influence in this respect has been felt far beyond the Spanish peninsula, and it has cost a long struggle for many of the Christian nations to free themselves from this influence. Science and life were with them two entirely and strictly separate spheres, and the last cause of their irremediable mental barrenness was the fact that, in their religion, and even in their purely lyric poetry, there was wanting that vivifying breath of the spirit which forms the true essence and strength of Christianity, that deep longing for harmony between heaven and earth, between faith and science, which has been the great motor of the Christian nations, and which has finally freed them from the heavy bonds of the Middle-Ages. The Moors, too, have had their middle-ages, but after those had passed they again sank down to the same level as in the times of Mohammed.

MOORISH VIEW OF EDUCATION.

The best idea of their educational views may be gained from the *Proverbs of Meidani*, which treat of filial affection, obedience, the advantages of silence, the value of experience, &c. Only one proverb praises woman: "A virtuous woman leads to all that is great." The reverse, however, follows immediately: "Women are the devil's fishing-nets." But if one looks for actual educational theories, very little is found in the whole of Moorish literature, with the exception of the famous philosophical novel by Ibn-Tofail, of Wadi-Jâsh, (Guadiz,) entitled *Chai ibn Jakdhân*, i. e., "The living one, the son of the waking one," which, though not quite justly, has been compared to Rousseau's *Emile* and to Defoe's *Robinson Crusoe*. A better comparison would be with Bonnet's *Essai analytique sur les facultés de l'âme*. The author describes the different grades of mental development in a man who has been entirely isolated from human society, but who, through the exertions of his own mind, and through the force of his own reasoning, obtains the knowledge of the mysteries of nature and the highest metaphysical speculations. It is like a dim dawn of the psychological method which, in modern times, has been applied to education, but it is by no means a system of education.

THE MOORISH SCHOOLS.

The elementary schools were connected with the mosques. In these schools reading, writing, and grammar were taught, ancient and modern poems were read, and the Koran was learned by heart. The course of instruction in the academies embraced theology, law, natural sciences, and medicine. In the beginning any one who pleased acted as professor; the lectures were open to all, and free of charge; only some teachers received pay from their scholars, and this was entirely

optional. But in course of time the government took the matter in hand, and appointed the teachers and professors.

THE CHRISTIANS DURING THE MOORISH PERIOD.

During the whole Moorish period the Spanish patriots, few in number, but possessed of indomitable courage, carried on an unceasing warfare against the foreign invaders, and gradually succeeded in establishing Christian kingdoms in the northern part of the peninsula. It was as glorious a struggle as any we read of in history, an heroic war whose Iliad is the *Romancero*. "To fight and to sing," these two words contain the whole history of Christian Spain during the Middle Ages, and its representative is the Cid Ruy Diaz de Vivar, el Cid Campeador. This state of affairs was not congenial to the cultivation of the arts and sciences, and the Christian portion of Spain for a long time remained as ignorant as it was heroic. The children, with the exception of those who were shut up in convents, were almost exclusively instructed in the use of arms. The constantly recurring necessity of defending the frontiers prevented the establishment of a settled central government. Nowhere in Europe was in those times the personal freedom of the lower orders and local privileges as great as in Spain. On the other hand, there were frequent infringements on the liberties of the people by the arrogant nobility, causing internal dissensions, and even at times leading to alliances with the Moors, who, since the death of Almansur, were divided into numerous opposing factions. The only places of refuge open to science were the convents, whose inmates took no part in the wars, but many of these, founded by superstition, had become nurseries of indolence, effeminacy, and immorality.

EDUCATION IN THE TENTH CENTURY.

In the tenth century we find only one man of learning worthy of notice, Haiton, bishop of Vich or Ossuna, the mathematical instructor of the famous Gerbert, (afterward Pope Sylvester II.,) who, it is said, introduced the use of Arabic figures into France. Very gradually, however, in proportion as the Christians gained upon the Moors, the greater public security allowed men of science to follow its pursuit more undisturbedly. Several causes concurred in furthering this movement: The growing fame of scholastic philosophy in the convents; the constantly increasing fame of the Paris University, whither large numbers of eager students came from all parts of Spain, as well as from Britain, to enter the ranks of the realists and nominalists, always ready for the fray; the great importance attributed to the Moorish commentaries of Aristotle, and their varied scientific works; the constant intercourse by letter kept up between the graduates of the Paris University who had returned to their homes; and finally the establishment of the Dominican order, which in a short time spread throughout the greater portion of Western Europe,

and which became a nursery of learned theologians and valiant knights of the spirit. The founder of the order was himself a Spaniard, born in Calahorra, 1170, from the noble family at Guzman, who had spent nine years at the famous school of Palencia, at that time the first in Castile. The dawn of a new era had begun, but the circumstance which more than any other tended toward a revival of learning in Spain was the transfer of the school of Palencia to Salamanca.

FOUNDATION OF THE UNIVERSITY OF SALAMANCA.

The first foundation of the University of Salamanca dates as far back as the year 1200, during the reign of Alphons IX. But the transfer mentioned above seems, according to the most trustworthy historians, not to have taken place till the reign of Ferdinand III., (1295-1312.) The new university had in the beginning to contend with great difficulties; it possessed great privileges, but very little money, and the professors had no fixed salary. In the year 1250, Alphons X. granted an annual sum of 2,500 maravedis,* for the professors' salaries; and still we find that, after a short period of splendor, the university, about 1310, had again sunk into insignificance; only several years later it became a university of the first rank, and the rival of Paris, Oxford, and Bologna.

THE EDUCATIONAL EFFORTS OF ALPHONS X.

Too great praise cannot be bestowed on Alphons X. (Alonzo el Sabio,) for his zeal in the cause of education and science. Before his reign the professorships were almost exclusively theological, while he also established professorships of the sciences. Under his directions did the professors of Salamanca compose the famous *Alphonsic Tables*, (astronomical tables;) they translated the works of Avicenna, Averroes, and of the commentators of Galenus; they assisted in editing the famous collection of laws, well known under the title *Las siete partidas*, which contains an extremely interesting chapter on the *Estudios generales*, (Part II., tit. 31.) One finds there laws and regulations of the greatest wisdom, which partly have been adopted by the universities of other countries and have been retained to this day. At the head of the University of Salamanca there was a rector who remained in office for one year, and was usually a member of one of the first families of the country. The rector, after consulting with the academic council, consisting of all the professors, filled vacant professorships. The university judiciary, to which all graduates and students were subject, was till 1334 in the hands of the bishop of the diocese, who in his functions was assisted by several other dignitaries of the Church; it was in the above-mentioned year transferred to a special official, the *maestrescuela*. The university comprised schools of all grades. In the *escuelas mayores* the course of instruction embraced: Theology, ecclesiastical and civil law, mathematics, natural

* Equivalent at that period to about \$12,000 present value.

philosophy, moral philosophy, languages and rhetoric; in the *escuelas menores*: *las artes y canones*, grammar, and music; in the *escuelas mininas*: the elements of grammar. These schools were all located in three magnificent buildings, of which two stand even now and serve the same purpose. Numerous colleges rose gradually by the side of the *alma mater*, and Salamanca swarmed with monks of different orders and with students, all passionately fond of sharp scholastic disputations; some of the Spanish novelists have given us vivid descriptions of the life and manners of these old Spanish students. Salamanca at this period had about ten thousand students; at the end of the sixteenth century there were about six thousand; about the middle of the eighteenth century their number was one thousand, and at present it is about five hundred. The fame of the university was so great that at the time of the great schism of Avignon, (1378-1429,) the two Popes, Urban and Clement, asked the advice of the learned doctors of Salamanca and willingly submitted to their decision. Columbus also submitted to them his great plans of discovery. As an instance of the liberal spirit prevailing at this university, it deserves to be mentioned that there the system of Copernicus was taught early in the beginning of the sixteenth century, at a time when everywhere else it was considered heretical. Such boldness, however, was of no long duration in a university where, in the conferring of degrees, the papal and royal authorities had equal influence. Nowhere was so much time lost in barren discussions, and nowhere was the art of distilling abstract ideas, without leaving a certain narrow circle, so well understood as at Salamanca. Durandus and Scotus were the beginning and the end of all philosophy, and innumerable theologians and priests argued in a noisy manner, without finding any admirers but their own teachers. In the time of Charles V., we find a few names of note like Covarrubias and De Soto, but after these nothing but hopeless mediocrity. There was, however, no lack of Spaniards who were true disciples of science, and from the thirteenth century we find them at many Italian universities; the famous Cardinal Carillo de Albornoz, in the year 1365, founded for them at Bologna the College of San Clemente, which has been in existence till our days. This mutual relation between Spain and Italy proved very beneficial to both countries. As an instance we may mention the famous humanist Antonio de Lebrixa, (Nebrissensis,) who was educated in Bologna, was professor of the Latin language in Salamanca for twenty years, and gave to his native country its first dictionary and grammar.

ESTABLISHMENT OF NEW ACADEMIES AND UNIVERSITIES.

It would lead us too far to enumerate here all the academies and high schools which were established in Spain till the end of the Middle-Ages. There is one fact, however, regarding Catalonia, which is of interest. Jaïme II., the founder of the University of Lerida, (Ilerdensis,) in vain issued decrees forbidding the other cities of his dominions to establish

superior institutions of learning; the force of circumstances compelled him to make one concession after the other. In Valencia the city authorities founded a university in spite of the most violent resistance of the bishop. The same object was accomplished in Barcelona, in 1450. But this spirit of emulation bore scarcely any fruit; and it may be said that Spain was never so near its mental decadence than just at the time when it seemed to have reached the very pinnacle of power, and when it was literally true that the sun never set in the empire of Charles V.

THE DISCOVERY OF AMERICA AND ITS CONSEQUENCES.—THE INQUISITION AND THE JESUITS.

The discovery of America, the establishment of the inquisition, the expulsion of the Jews, and more than all this, the foundation of the order of the Jesuits, created for Spain a very peculiar position, which formed a very striking contrast to that of all the other civilized nations of Europe at that period. Gold and silver in unheard-of quantities flowed into the public treasury from the American mines; the consequence was a more and more despotic system of government, as the kings were no longer obliged to call the Cortes together in order to raise money. The immense increase of private wealth only tended to increase the natural indolence of the Spaniards. People went to the Indies (America) in order quickly to grow rich, the resources of the mother-country were neglected, and the great mass of the people plunged wildly into luxury and immorality. At no time was education so much neglected. Young people left to themselves from the fifteenth or sixteenth year of age, lived in a state of complete idleness and even boasted of their extravagance. This is one of the causes of the depopulation of the kingdom. No less baneful was the influence of the inquisition. The Moors and Jews took their science and their industry with them into their banishment, and in bigoted and indolent Spain there remained only persecuting monks and priests, brutal soldiers, adventurers, and beggars. Cardinal Ximenes made great exertions to revive a scientific spirit by founding the University of Alcala, (Complutensis,) in the year 1504, the foundation of whose fame was laid at once by the edition of the famous polyglot Bible, and which, during the second half of the sixteenth century, when Cervantes studied there, shone with greater splendor than all the other Spanish universities. But outside of the sporadic works of a small number of learned men, and perhaps five or six great poets and prose-writers, Spain, which once possessed all the requirements to become the first nation of the world, gradually sank down to the very lowest grade on the scale of European civilization. What sphere could be found for liberty of thought and noble aims in a country where *autos-da-fé* were great national festivals? Those who aimed at something higher and better studied in Italy, and frequently remained there. The victories and the policy of Charles V. had here likewise established the Spanish supremacy, but the sun of

science and art continued to shine in Italy with incomparable splendor, and the inquisition never took such deep root there as on the Spanish peninsula. The Dominicans and the universities did, in the beginning, by no means look favorably on the establishment of Jesuit colleges in the chief cities of the kingdom. Charles V. never trusted the Jesuits, and Philip II. said, "The only order which I do not understand is the order of the Jesuits;" but in spite of this they pursued their aims with patience and perseverance. Before fifty years had passed they were masters of the situation, through the intimate bond connecting them directly with the Roman pontiff, by the principle of passive obedience (*perinde ac cadaver*) laid down in their constitution, and by the influence which, through preaching, confession, and the education of youth, they had obtained over all classes of society. It must be granted that with regard to education they possess real merits; they improved the method of instruction in the classic languages, and their prudent discipline did not fail to exercise a salutary reaction against the growing licentiousness. These results, however, were more external and seeming than lasting and real. The casuistry in Mariana's book *De rege*, (written for the instruction of the crown-prince;) the subtleties of Sanchez, Escobar, and Caramuel, cannot easily be reconciled with the spirit of the Gospel. Especially in Spain and in South America have the doctrines of the Jesuits, as applied to education, paralyzed liberal thought. The Jesuits let the inquisition exterminate the heretics with fire and sword, while they themselves carried on the warfare with the arms of dialectics and science. After having become reconciled to the *Santo Officio* they took possession of all the schools, and finally also of the universities. The inquisition prohibited all suspicious books, and the Jesuits confined free thought in constantly narrowing circles. Absolute ignorance held full sway in philosophy, history, the exact sciences, and in the mechanical arts. Since the middle of the sixteenth century there were in Spain no more engineers, the art of printing declined, and the gold of both the Indies went to foreign countries without any benefit to the mother-country. The Jesuit colleges were not wanting in admirable arrangements, but the rations of knowledge, so to speak, were measured out to the pupils in accordance with the aims pursued by the order. The study of grammar and rhetoric was flourishing; Latin odes and elegies were composed by the pupils, the logic of Aristotle was explained, and much time was devoted to argue trivial questions in a skillful manner, but everything was superficial and without real benefit. The ideal aimed at was a complete Jesuit, not a man in the full sense of the word. In Paraguay the experiment was carried out fully.

FAMOUS SCHOLARS OF THE SIXTEENTH CENTURY.

The indirect influence of some scholars of this period contributed a little to the further development of science, if not to the general education of the people. Among those who deserve special mention there is

Juan Luiz Vives, a somewhat dry but very learned writer, worthy of being placed by the side of Erasmus and Budæus. His books, *De ratione studii puerilis*, *De tradendis disciplinis*, *De causis corruptarum artium*, deserve a place in every history of education, but they were not written in Spain. The grammarian F. Sanchez, (Sanctius,) who in his native country was called *el doctor de todos los hombres de letras*, and *el padre de la lengua latina*, during the reign of Philip II. wrote an admirable work, *Minerva, sive de causis linguæ latinæ*, which formed the basis of the *Méthode latine* of the humanists of Port Royal. Another important work was the *Examen de los ingenios para las ciencias*, written by Huarte in 1580; and, finally, we cannot pass over in silence the works of Pedro de Ponce, who was the first inventor of a method of instruction for the deaf and dumb. But all these are only isolated examples, and in passing from the sixteenth to the seventeenth century we see nothing but the most deplorable decline of science. In order to find a revival of scientific studies we must go as far as the accession of the Bourbons to the throne of Spain.

ATTEMPT AT EDUCATIONAL REFORM BY SIMON ABRIL.

A Spanish journalist, M. J. M. Guardia, living in France, has, some years ago, brought to light a remarkable memorial on the reform of education, which Dr. Pedro Simon Abril, professor of the Greek language at the University of Saragossa, in the year 1589 addressed to Philip II. It was a bold step of the worthy doctor, but by addressing himself directly to the king he showed his wisdom, for this was the surest way of quieting clerical censure. He obtained nothing by it, but his is the honor of having attempted a reform; and his memorial is of great historical interest, for in bringing forward his thoughts of reform he points out the weak sides of the system, and gives us a striking picture of the Spanish schools under the rule of the blindest despotism. The government sent from time to time official inspectors, whose duty it was to correct abuses which might have crept in in course of time. But, as Dr. Abril says, they did not busy themselves with educational questions, and examined only the food and clothing of the scholars. Simon Abril insists on the necessity of paying attention to the method of instruction, and compares the old and new methods. He urgently demands that teachers should no longer use the Latin language in giving instruction; he complains of the vagueness of the subjects assigned to the different professors; of the impatience of the students, who in their haste to obtain degrees acquire a very superficial knowledge, and do not take the time and trouble to study the great authors of antiquity; the reform of the whole system of education ought to be delayed no longer. He says, "Let us begin with the beginning; why is not the grammar of our mother-tongue taught in the smaller (primary) schools, and why are our grammars written in Latin; why are meaningless rules learned by heart instead of storing the child's mind with useful moral axioms, as was the

custom in former times, when the rules were learned by studying various authors; why these endless translations into a foreign language instead of translations from foreign languages?" He is also dissatisfied with instruction in logic, and with regard to this he says: "Logic in itself is of no value; it is only valuable by the use which is made of it; it is a tool to work with, and no more; people break their heads with discussions on abstruse metaphysical and theological questions, while it would be by far preferable to choose questions from the positive sciences, (*las ciencias de cosas.*) And rhetoric is taught in a foreign language, while the only chance for using it to advantage is in the mother-tongue. Mathematics are almost entirely neglected, to the great disadvantage of the country, and the little that is taught is taught in Latin. There is no professorship of agriculture, architecture, the military sciences; but there are a large number of professorships for vain sophistries; moral philosophy is only taught by name. In medicine anatomy is studied but little, and there is no professorship for materia medica; the case has happened that a physician killed his patient because he mistook *chalybs* for chalk." In civil law people scarcely understood the terms of the law, and the commentators preferred the most barbarous Latin to Spanish. Roman law is of undisputed value, but it would seem a better policy to pay more attention to the law of the Spanish kingdom. The study of theology had entirely degenerated; instead of explaining the patristic writings, the vague and dreamy works of some modern authors were read. "What has become of the analytical method of Aristotle and Euclid?" he exclaims. "Do the students of theology know the Old and the New Testament? Are the future preachers made acquainted with the speeches of the great pulpit orators?" Simon Abril, however, is shrewd enough to add that he was ready to retract anything in his memorial which would not meet with the approval of the Holy Church. It was, indeed, dangerous to speak with so much freedom.

STATE OF EDUCATION DURING THE FIRST HALF OF THE EIGHTEENTH CENTURY.

Philip V. (1701-1746) was much grieved at the mental decadence of his country, which, during the period of the war of the Spanish succession, was a great deal worse than during the time of Simon Abril. Following the example of his grandfather, Louis XIV., he considered it one of the first duties of a king to protect arts and sciences. In 1713 he founded the Royal Academy at Madrid, whose chief duty it was to purify the Castilian language, which, through bad taste and ignorance, had become deteriorated, and in 1738 he established the Academy of History, whose works even now enjoy a well-merited reputation. From his reign there dates the establishment of the Medical Society at Seville, of the Academy of Science at Barcelona, the Academy of History and Geography at Valladolid, and the Academy of Mathematics at Granada. Ferdinand VI. (1746-1759) founded and endowed several universities. A real

reform of public instruction, however, was made by Charles III., (1759-1788;) and it was high time, for the wretched condition of affairs at this period beggars description. The text-books and methods of instruction were still the same as in the age of Ximenes; scholasticism ruled supreme, the Copernican system was looked upon with suspicion, and Bacon was not even known by name. The professorship of mathematics at the University of Salamanca had been vacant for one hundred and thirty years, when Diego de Torres was called to fill it. This was the same Torres who, after having studied at Salamanca for five years, with regard to a dissertation of Pedro Clavijo, *De sphaera*, wrote the following words: "I believe this was the first intimation I received that there was such a thing as mathematics." But few Spaniards during the first half of the eighteenth century were enlightened enough not to believe in astrology. When Charles III. requested the University of Salamanca to give up its old prejudices, and to institute lectures on mathematics and natural sciences, the first answer the faculty gave was, "that Newton taught nothing from which logicians and metaphysicians could learn anything, and that the doctrines of Descartes and Gassendi did not agree as well with Divine truth as revealed in the Scriptures as those of Aristotle." In a report made to the king by the minister of state, Marques de Enseñada, we read: "In the whole kingdom there is not a single professorship of law, of natural sciences, of anatomy, and of botany. We have no good map of Spain and its provinces, and no man who could draw such a map, and we are obliged to use the very imperfect maps of Spain which we receive from the Netherlands and from France, so that we, to our great disgrace, do not know the right location and true distance of our own cities."

STATE OF EDUCATION DURING THE SECOND HALF OF THE EIGHTEENTH CENTURY.

The monk Benito Feyoo had had the courage to protest loudly against the prevailing ignorance in his work, *Teatro critico universal ó discursos varios en todo genero de materias, para desengaño de errores comunes*, published in 1726, and he may justly be called the forerunner of all the reforms of Charles III. This king, with the assistance of wise and energetic ministers, boldly laid the ax to the rotten tree. He commenced by limiting the power of the inquisition; he decreed that the authors of works which had been placed on the Index by the Pope, should be permitted to defend themselves publicly before the authorities; that no papal bull should be valid in Spain if not approved by the king; and finally, to crown his work, he banished the Jesuits without consulting the Pope. The universities of Salamanca, Alcalá, Granada, and Valencia were reconstructed on an entirely new basis; the monks were directed to apply themselves to study, and various societies for the advancement of education were encouraged and assisted; and in the towns and villages higher and lower schools were opened. Spain felt the beneficial

result of the reforms materially and morally ; the hopes and expectations which were entertained with regard to the successor of Charles III., Charles IV., (1788-1808,) were, however, not realized. T. Fritz, in his work, *Esquisse d'un cours complet d'éducation et d'instruction*, Strasbourg, 1843, says: "Manuel Godoy, the first minister of Charles IV., declared himself strongly in favor of the Pestalozzian system. A committee appointed to examine the system, after long consultation, finally declared it to be excellent. It had been successfully introduced in the military school at Tarragona, and a school for scholars, established on the same plan in Madrid, continued to prosper in spite of the violent intrigues against it. Zealous teachers who wished to complete their pedagogical studies came to attend this school from all parts of the kingdom, and one of the king's sons was even educated according to the new method. But public opinion was so strong against Godoy, that reforms undertaken by him were not lasting." Documents from the first year of the present century show that the number of schools at that time was still very small ; from Easter till the end of October they were closed ; the Piarists had the monopoly of public instruction, and private instruction was in the hands of menials. In 1807 a plan of reform was drawn up, in accordance with the system adopted at Salamanca, but it was never carried out.

THE FRENCH INVASION.

The misfortunes of the following years naturally turned all thoughts into another direction. The treachery of Godoy, who betrayed his country to Napoleon I., the abdication of Charles IV., the French invasion, and the accession of Joseph Bonaparte to the throne of Spain, spread the ideas of the French revolution of 1798 throughout Spain, and awakened a strong national sentiment, but the influence of a fanatic priesthood at the same time became stronger and more wide-spread than ever before. The liberals, nevertheless, in the assembly of the Cortes at Cadiz, who drew up a new constitution in 1812, gained a victory over the conservatives. But when Ferdinand VII. returned to Spain, (May 4, 1814,) he refused to take the oath on the new constitution, and was for this loudly applauded by the ignorant masses. The monks and Jesuits reappeared everywhere, the least liberal movement created suspicions in the heart of the despot, and a system of proscriptions commenced, as bad as in the worst times of the monarchy. The welfare of the nation was entirely lost sight of, and civilization was thrown back for a century.

THE CONSTITUTION OF 1812.

From the following articles from the constitution of 1812, it will be seen what progress Spain might have made if it had been carried out loyally by an energetic and enlightened king. Article 366 says: "In all villages of the monarchy primary schools are to be established, in

which the children will be taught reading, writing, and arithmetic, the catechism of the Catholic Church, and a summary of the duties of a citizen." Article 367: "A sufficient number of universities and other higher institutions of learning is to be established to teach sciences, literature, and art." Article 368: "The course of instruction is to be uniform in all parts of the kingdom. The constitution is to be taught and explained at all universities and institutions of learning whose course embraces theology and law." Article 369: "A supreme educational committee is to be appointed, consisting of men of acknowledged learning, and the inspection of primary schools is to be in the hands of this committee." Article 370: "The Cortes will, by special laws, regulate all the affairs pertaining to this highly important subject of public instruction." All these articles remained pious wishes. The revolution of 1820 compelled Ferdinand VII. to accept the constitution, the law for a reform of public instruction was made the order of the day, and was published June 29, 1821, but the government did not pay any attention to this. Two years later the civil war broke out, and the attitude taken by the great powers of Europe brought about a complete triumph of the reactionary party.

THE PERIOD OF CIVIL WARS.

A new plan drawn up in opposition to the exertions of the Cortes in 1824 was carried out, and up to the year 1845 no changes were made in it. During the lifetime of Ferdinand VII., education rapidly declined; several universities were deprived of their entire property. The first report of the society for public instruction in Madrid, published in 1839, says: "It is scarcely credible, but nevertheless true, that, *e. g.*, during the reign of the Calomarde ministry in 1827, the sums intended for the salaries of professors of Hebrew and Arabic were appropriated by the government to pay for a school of bull-fighting!" Matters became worse till Christine ascended the throne, (1830;) she reopened the universities, and the royal ordinance of September 29, 1836, had a beneficial influence, increasing the schools and improving their organization. In the year 1838, the Cortes were engaged in discussing two new plans for a reform of public instruction, the first regarding the primary schools, and the other the secondary and superior schools. Only the first plan was adopted, and primary instruction was now regulated by law; the second did not become a law, and the ordinance of 1836 remained in force. It was discussed once more, but bitter party-warfare and civil disturbances for a long time prevented all reforms.

RECENT HISTORY, 1845-1873.

The "plan of studies" of September 17, 1845, promulgated in the beginning of the reign of Isabella II., during the military dictatorship of Narvaez, who had formed a ministry composed entirely of "*moderados*," for the first time embraced the schools of all grades. Normal-schools

were established in the chief cities of the provinces; a mining-school and a school of industrial engineering were likewise founded. Narvaez, however, only maintained his position by terrorizing the nation and by the discord among the leaders of the liberal party, and the following eleven years present a deplorable spectacle, as education was suffering greatly through the constant changes of government. The "plan of studies" of 1845, being changed continually, lost its uniformity and finally fell into disuse. In 1851, a concordat with Rome was signed, whose second article says: "Instruction in the universities, colleges, seminaries, public or private schools of every kind, must in all respects be regulated according to the doctrines of the holy Catholic religion. The bishops and clerical superintendents of dioceses are therefore empowered to watch over the purity of morals and the education of youth in all schools, public and private." In the same year the Jesuits again made their appearance in the province of Guipuzcoa; their establishment was closed, however, in 1854, in consequence of the political crisis, which for two years lifted the liberal party into power. Under the influence of the modern Catholic reaction of 1856, on the eve of a change of ministry, the law of September 9, 1857, was promulgated, which in its most essential features has been left unchanged by all the following cabinets, even up to the recent proclamation of the republic. In September, 1868, a revolution broke out by which Queen Isabella was obliged to leave the country. The monks and Jesuits were banished, the concordat with Rome was publicly burned on the 4th of October, 1868, and the constitution of June 9, 1869, made education compulsory and free of charge.

On the 4th of December, 1870, Amadeus, son of King Victor Emanuel of Italy, accepted the crown of Spain, which had been offered to him by the Cortes, but, tired of the never-ending troubles, he abdicated in February, 1873, and the republic was proclaimed in Madrid. Thus an entirely new era has commenced in the history of Spain, and it is difficult to foretell what the end will be and how education will be influenced by these sweeping political changes. The most important points of the law of 1857, and the modifications which have been made in it, are given below.

THE EDUCATIONAL LAW OF 1857.

The law of September 9, 1857, had during a few months been supplanted by the law of June 2, 1868, the work of the most extreme absolutistic and clerical party.

The provisional government of 1868 immediately rescinded this law and returned to the one of 1857, at any rate till something better was created, so as to take education and its supervision out of the hands of the clergy. Don Manuel Ruiz Zorilla, minister of public instruction, in his two decrees of October 4 and 21, 1868, did not conceal his dissatisfaction with the law of 1857. He even went further: in announcing a speedy and thorough reform of the whole system of public instruction,

he declared that his ideal was nothing less than the total suppression of all public institutions of learning, as in his opinion this sacrifice was the unavoidable consequence of the constitutional liberty which had been proclaimed. But as during the period of transition the just demands of the moment had to be taken into account, he agreed to a compromise, consisting in the maintenance of the law of 1857, except in such articles as were utterly at variance with the principles of the present government.

SUPREME EDUCATIONAL AUTHORITY.

The highest educational authority is a minister *del fomento*, (of furtherance of education, public works, &c.) According to the law of 1857 the minister was to be assisted in his functions by a "royal council of studies," (*Real consejo de instruccion publica*), whose president, members, and secretary were to be appointed by the government. This council originally consisted of thirty members, but was reduced to twenty-four by the royal decree of October 9, 1866. There were in this council ministers, archbishops, bishops, councilors of state, directors of public instruction who had formerly been professors in some university, magistrates, state attorneys, members of the royal academies, rectors of universities who had been out of office for six years, ordinary professors of universities, and four places were reserved to men holding no official position, but distinguished by their literary or scientific activity. The office of councilor of studies was entirely honorary, without any emolument whatever, and could never be held by professors in active service. Originally this council had five sections, which by a ministerial decree of June 17, 1868, were reduced to three, viz, one for primary schools, special schools, and schools of art; one for secondary schools; and one for superior schools.

The government was obliged to consult this council with regard to, 1, all changes in the existing laws; 2, the founding or discontinuing of schools of all grades; 3, the founding of new professorships; 4, their salaries and classification, the pensions of teachers, &c.; 5, changes in the course of instruction; 6, choice of text-books; 7, in all other cases provided for by the law and regulations. The minister was also to consult this council on all doubtful questions.

The decree of October 10, 1868, simply abolished this council, and all further measures have been taken under the sole responsibility of the minister. The council had in reality become practically useless, as education had been declared free in the fullest sense of the word, and as the clergy could no longer exercise any influence.

PROVINCIAL AND LOCAL EDUCATIONAL AUTHORITIES.

At the head of the central administration there is a general director of public instruction, while the local administration is in the hands of

the rectors of the universities, each of whom is assisted in the exercise of his functions by a local (university) council of education, one for each university district. By royal decree of July 17, 1857, there is to be a provincial council of education in the capital of each province, which is to watch over the progress of education in the primary and secondary schools, and over the proper use of the school fund. According to the law of September 9, 1857, this council was to consist of the governor of the province as president, a member of the provincial diet, a member of the city council, (of the capital of the province,) the school inspector of the province, a clergyman, proposed by the bishop of the province, and at least two private citizens, fathers of families. Finally there was to be a local (district) council of education in every district of the province, for the supervision of primary instruction, consisting of the alcalde, one district councilor, one clergyman of the district, and at least two fathers of families. This local (district) council had to report to the provincial council, and this to the rector of the university, who again reported to the central government. All these regulations were changed by the decree of October 14, 1868; henceforth the provincial councils are to consist of nine members elected by the provincial diets; the local (district) councils are to consist of fifteen members in cities of more than 100,000 inhabitants, in cities of fewer inhabitants, not less than 2,000, of nine members; in all others of five members, who are to be elected by the city councils. All these measures clearly show the prevailing spirit of decentralization, while from 1845 till the revolution of 1868 the opposite principle had ruled almost exclusively.

PRIMARY INSTRUCTION.

Primary instruction is divided into two grades, elementary and higher. The course of instruction in the elementary grade comprises the following subjects: Christian doctrine and sacred history, reading, writing, principles of Spanish grammar, orthography, principles of arithmetic, with the legal system of weights, measures, and coins, rudiments of agriculture, industry, and commerce, adapted to the localities. The higher primary grade is to embrace in addition the following subjects: principles of geometry, linear drawing and surveying, rudiments of history and geography, especially of Spain, general notions of natural philosophy and natural history as adapted to the necessities of every-day life. In the girls' schools female work and domestic hygiene are substituted for the rudiments of agriculture, industry, and commerce.

STATISTICS.

There are no later statistics of primary instruction than those of 1867, but for comparison's sake those of 1797 and 1859 are also given:

Number of public and private primary schools in 1797, 11,156.

Number of public and private primary schools in 1859, 22,060.

Number of public and private primary schools in 1867, 26,332.

Number of scholars in public and private primary schools in 1797, 400,376.

Number of scholars in public and private primary schools in 1859, 1,086,578.

Number of scholars in public and private primary schools in 1867, 1,425,339.

SECONDARY INSTRUCTION.

The so-called secondary schools for a long time taught nothing but a little Latin and moral philosophy, but other branches of instruction have now been introduced, such as modern languages, geography, history, mathematics, logic, chemistry, natural philosophy, gymnastics, fencing, music, &c. These schools are called *Institutos*. They are maintained chiefly by provincial and local exertion. According to the statistics of 1867 there were 63 secondary schools, viz, 50 provincial and 13 local, with 18,903 scholars.

NORMAL SCHOOLS.

The law of 1857 created primary normal-schools in the capital of every province, besides a central normal-school at Madrid. The latter is supported by the central government, and the others by the provincial authorities. With each of these normal-schools a model- or practice-school is connected. The course of studies is two years for teachers of the lower primary grade, three years for those of the higher primary grade, and four years for the diploma of *maestro de escuela normal*. The course of instruction in the central normal-school embraces the following subjects: Universal history, history of Spain, rhetoric, poetry, geography, grammar, pedagogics with special reference to the instruction of the blind and the deaf and dumb, natural philosophy, chemistry, natural history, industry, commerce, systems and methods of instruction, geometry, linear drawing, agriculture, religion and morals, theory and practice of reading and writing, gymnastics. The course of instruction in the provincial normal-schools is very similar.

SUPERIOR INSTRUCTION.

Superior instruction comprises the "Faculties," (the universities,) and some special schools, which will be mentioned below. There are at present ten universities, which number is justly considered too large. These ten universities, which at the same time are the seats of the local (university) councils, are Madrid, (embracing the provinces of Madrid, Ciudad Real, Cuença, Guadalajara, Segovia, and Toledo;) Barcelona, (Barcelona, Gerona, Lerida, Taragona, and the Balearic Islands;) Granada, (Granada, Almeria, Jaen, and Malaga;) Oviedo, (Oviedo and Leon;) Salamanca, (Salamanca, Avila, Caceres, and Zamora;) Santiago,

(Coruña, Lugo, Orense, and Pontevedra;) Seville, (Seville, Badajoz, Cadiz, Canary Islands, Cordova, Huelva;) Valencia, (Valencia, Albacete, Alicante, Castellon, Murcia;) Valladolid, (Valladolid, Alava, Burgos, Guipuzcoa, Viscaya;) Saragossa, (Saragossa, Huesca, Logroño, Navarra, Soria, Teruel.)

Every university has a rector, appointed by the government from among the professors, (decree of October 14, 1868.) There is also a vice-rector, one of the professors, who takes the rector's place in case of absence or sickness. The reform produced by the revolution of 1868 has not had much influence on the universities. All that has been done was to revise the lecture-plan, to suppress the theological faculty, and to empower all universities to give the doctor degree, which privilege had been confined to the University of Madrid. There are three academical degrees: Baccalaureate, licentiate, and doctor. Each university is to have five faculties, viz: 1. Philosophy and Literature; 2. Mathematical and Natural Sciences; 3. Pharmacy; 4. Medicine; 5. Law. Not all universities, however, possess all these five faculties. In the University of Madrid they are all represented. With the second faculty in Madrid there is connected a school of mathematics, physics, and chemistry, a museum of natural history, and an astronomical observatory. Law faculties are at present found in all universities. Faculties of medicine are only in Madrid, Granada, Santiago, Seville, Valencia, and Valladolid; and faculties of pharmacy are only found in Madrid, Barcelona, and Granada.

SPECIAL INSTRUCTION.

Of special schools Spain possesses the following: 1. The special schools for engineers and miners at Madrid; 2. The schools of agriculture at Madrid and Aranjuez; 3. The industrial schools at Madrid and Barcelona; 4. The *escuela diplomática* (school of diplomacy) at Madrid; 5. The lower law-schools (for educating public notaries) at Madrid, Barcelona, Granada, Oviedo, and Valladolid; 6. The academy of the fine arts at Madrid, the school of architecture at Madrid, the conservatory of music at Madrid; 7. The schools of veterinary surgery at Madrid, (of the first class,) and those of the second class at Cordova, Leon, and Saragossa; 8. The navigation schools at Barcelona, Bilbao, Cadiz, Cartagena, Coruña, Gijon, Malaga, San Sebastian, Santander, and Santa Cruz, (on the island of Teneriffe;) and the schools of ship-building at Barcelona, Cadiz, Coruña, and Santander.

EDUCATION IN BOLIVIA.

EDUCATION IN BOLIVIA.

[NOTE.—For the following account of education in Bolivia we are indebted to the report of the Brazilian minister in La Paz, Bolivia, made to the Brazilian government in April, 1872, and kindly forwarded to this Bureau by the Brazilian minister at Washington.]

CONSTITUTIONAL PROVISIONS REGARDING EDUCATION.

The constitution of Bolivia guarantees liberty of instruction under the supervision of the state ; but this principle, although acknowledged by the constitution of 1851, has never been carried into practical execution as far as superior and professional instruction is concerned, and only to a certain limited extent with regard to primary and secondary instruction. The ministry of public instruction has, on different occasions, denied the authority for liberty of instruction in professional studies, thus openly defying the letter of the constitution. This difference dates from the university statute of November 13, 1846, dictated under the influence of the political constitution of 1843.

HISTORY OF PUBLIC INSTRUCTION.

The history of public instruction in Bolivia presents no very flattering picture. During the colonial period primary schools supported by the government were almost entirely unknown. Only in the beginning of this century primary schools were founded in some cities under the supervision of, and supported by, the respective city councils. Primary instruction was consequently confined to some private schools of the most imperfect description, and to the convent-schools ; as a general rule, reading and writing were taught in the parental home. Superior instruction was limited to Latin and the outline of philosophy taught at the University of Saint Francis Xavier, established in Charcas almost at the same time when the Jesuits founded seminaries at Chuquisaca and La Paz, during the reign of Charles III., (1759–1788.) The University of Charcas was one of the most noted of the few high-schools that promoted civilization on the South American continent. Besides the above-mentioned studies, ecclesiastical and civil law were taught, and many men who distinguished themselves during the struggle for independence, such as Monteagudo and Moreno, studied at this university. The professors were men of acknowledged ability, and many of their scholars, especially among the law students, gained a great repu-

tation, such as Pinto and Origúela. The splendor of the University of Charcas disappeared with the declaration of independence. General Sucre (first president of Bolivia, 1825–1828) organized several colleges for secondary instruction in the principal cities, and promised the establishment of primary schools in the provinces, a few of which were really established. In 1831 another university was founded in La Paz, introducing a more extended amount of preparatory studies. Although not yet sufficient, law, medicine, and theology are included. In 1846 another change took place in the system of public instruction. In that year, Frias, minister of public instruction, promulgated a new educational statute, by which instruction of all kinds was divided in three grades, viz, primary, secondary, and professional, and with regard to the two last-mentioned introduced, though in a very imperfect manner, the French system of simultaneous instruction. The adoption of this system was, in Bolivia, considered a progress, and although many now deplore the numerous imperfections of this system, it is still followed with but few alterations. One of the chief faults of the system of secondary instruction is, that too much time is devoted to mere literary or humanitarian studies, thus neglecting the more scientific studies. Thus the study of chemistry, natural philosophy, and natural history is limited to a mere nomenclature of aphorisms; and the want of special schools only increases this evil. Another great complaint raised against the present system is the want of professors, whose number is so limited that most of them have to teach a great number of frequently very heterogeneous subjects. In the year 1859, Valle, the minister of public instruction, promulgated new statutes of public instruction (extending also to the primary schools) fashioned after the French system, thus producing a veritable chaos in educational affairs. From this rapid review it will be seen that education in Bolivia leaves still much to be desired.

PRIMARY INSTRUCTION.

Primary instruction is given in city- and cantonal-schools, (canton: subdivision of the province, answering to our counties,) infant-schools, (*casas de asylo*), and female colleges, (*collegios de educandas*.) The course of instruction in the city-schools embraces Christian doctrine, reading, writing, arithmetic, Spanish geography and history; and in the cantonal schools, Christian doctrine, writing, reading, elements of arithmetic, and Spanish. The number of city- and cantonal schools are proportioned to the number of inhabitants. The teachers are appointed and paid by the government, whose duty it is to increase the number of schools wherever it is deemed necessary. In order to educate competent primary teachers there is to be established a normal-school in the capital of every department, (province.) All schools are regulated by the law of November 13, 1846, and by the law of December 31, 1859. In addition, the following educational laws are in force: The law of

April 20, 1860, treating of the expenses for gratuitous instruction and of the conduct of the examinations; the law of August 25, 1860, treating of the competitive courses for teachers and of the number of scholars in each school; the law of December 7, 1860, treating of the appointment of teachers; and the law of July 7, 1862, regulating the school at Cochabamba, conducted by the Sisters of Charity. The law of June 27, 1861, whose execution is recommended by the order of July 20, 1864, provides in its 8th paragraph: "In villages where there is no state-school, the priests will, at their own expense, keep a school in which the elements of religion are taught and primary instruction is given." By decree of November 25, 1867, central schools of primary instruction have been established in the capitals of some of the departments. By a circular of September 3, 1856, primary-school committees are appointed in the capitals of the departments, having the duty to supervise the schools of their departments, to establish new schools where it is found necessary, and to improve the existing schools. By a decree of December 10, 1859, the art-colleges of La Paz and Cochabamba are converted into schools for the children of workingmen. By a decree of September, 1861, the primary schools are divided into complete and incomplete schools.

INFANT-SCHOOLS.

The first infant-school was established on November 23, 1855, in the city of Potosi, intended to prepare young children between the ages of three and seven years for the primary schools. July 20, 1858, another was established at Sucre, and finally, August 20, 1861, a third one at Cochabamba; this the one to which the law of July 2, 1862, refers, intrusting it to the care of the Sisters of Charity, and assigning to it a house and funds.

FEMALE COLLEGES.

There are female colleges (*collegios de educandas*) in the capital cities of the departments. The course of instruction in these institutions embraces reading, writing, arithmetic, Christian doctrine, Spanish grammar, universal history and New Testament, geometry, cosmography, natural philosophy, physical geography, domestic hygiene, drawing, music, embroidery, cutting, and sewing. These colleges are under the immediate direction of a lady principal, and are subject to the inspection of a committee composed of one member of the university-council, a magistrate, and a clergyman, presided over by the vice-chancellor of the university. These colleges admit both day-scholars and boarders, some of whom give instruction free of charge, whose number is fixed by the law of January 18, 1862. On November 23 such a college was established at Santa Cruz; in 1863 the second at Oruro; in 1864 the third at Tarija, and in 1866 the college at La Paz was transformed into a day-school.

SECONDARY INSTRUCTION.

Secondary instruction is imparted in secular and ecclesiastical colleges. The course of instruction in the former, which are government institutions, embraces languages, arithmetic, algebra, geometry, trigonometry, geography, history, elements of natural history, natural philosophy, religion and moral philosophy, drawing, and vocal and instrumental music, (decree of October 15, 1845.) Each college has six classes, and the professors are appointed by the government after a competitive examination. Most of the capitals of departments possess such colleges, admitting also day scholars. The ecclesiastical colleges or seminaries (*collegios seminarios*) are under the direction of the clerical authorities, and are regulated by special laws. Their course is very similar to that of the secular colleges, only giving more extensive instruction in theology. Nothing, however, must be taught that is contrary to the constitution or the laws of the country. By a decree of February 25, 1859, the archbishop of Charcas established grand or central ecclesiastical seminaries in the dioceses of La Paz, Cochabamba, and Santa Cruz, under the direction of the respective prelates. Bolivia also possesses some private lyceums or secondary schools, established under a license from the government.

SUPERIOR INSTRUCTION.

Bolivia has three universities, viz, Sucre, La Paz, and Cochabamba. The direction and inspection of schools of every grade are entirely in the hands of the universities. Each university has five faculties, viz: 1. Theology; 2. Law and political sciences; 3. Medicine; 4. Mathematical and physical sciences; 5. Humanities and philosophy. The faculty of theology comprises dogmatics, morals, ecclesiastical law, sacred history, and church history, (decree of November 24, 1860.) The faculty of law comprises civil law of Bolivia, Roman law, applied in Bolivia, elements of political economy, commercial law, judicial organization, criminal law, medical jurisprudence, constitutional law, and administrative law, (decrees of November 27 and December 27, 1859, and June 5, 1864.) The faculty of medicine comprises anatomy, physiology, pathology, materia medica, chemistry, pharmacy, hygiene, and clinical practice. The faculty of mathematical and physical sciences comprises mathematics, natural history, chemistry, and natural philosophy. The faculty of humanities and philosophy comprises literature, philosophy, and history. The degrees conferred by the universities are, bachelor, licentiate, and doctor; the medical faculty only confers the degree of doctor. All instruction at the universities must have for its basis: 1, the precepts of the holy Catholic religion; 2, fidelity to the republic, to the constitution, and the principles of public order; 3, obedience to the statutes of the university. The officers of the university are: 1, the minister of public instruction, (the highest authority;) 2, the chan-

cellor; 3, the vice-chancellor; 4, the councilors; 5, the ordinary councilors; 6, the deans and professors of faculties; 7, the presidents and professors of colleges; 8, the directors and professors of private institutions of learning licensed by the university. The university-council is composed of ten members, two of whom are inspecting councilors, and one chosen from among the presidents of colleges appointed for lifetime, (*conselheiros perpetuos*;) the seven others are ordinary councilors, chosen from among the deans and professors of faculties, and from among the presidents and professors of colleges. The minister appoints these seven ordinary councilors every year. In order to become "perpetual councilor," a person must have been employed ten years at some college, and have served five years in the council as ordinary councilor.

ACADEMIES OF FORENSIC PRACTICE.

These academies were created by a decree of April 23, 1859, as institutions entirely separate from the universities, with which they had been connected by a decree of November 15, 1855. They are attended by law-students, after having obtained the degree of licentiate, for two or more years, till they are able to present themselves for an examination for attorney before the district courts. These academies are under the immediate supervision of a committee composed of several judicial authorities and lawyers of the district.

ART-COLLEGES.

By a decree of August 6, 1853, two such colleges were established in the republic, and by a decree of the 25th August, of the same year, instruction in these colleges was declared entirely free of charge. The course of instruction is not given, but these colleges are a sort of industrial or technical schools.

MINING-SCHOOLS.

By a decree of August 6, 1853, mining-schools were founded in the cities of Potosi and Oruro.

LIBRARIES AND PUBLIC MUSEUMS.

Public libraries were established by a decree of June 30, 1858, and by a decree of March 14, 1867, special libraries were established at the universities and the institutions of secondary instruction. All the public libraries are under the direction and supervision of the university-councils, and there is a director-in-chief of all the public libraries of the republic. By a decree of December 31, 1840, public museums were established in the capitals of every province. The most important of these museums are those of Potosi, founded in 1846, and of La Paz, founded in 1845.

AGRICULTURAL COLLEGE.

By a law of June 12, 1861, an agricultural college was to be established, which was opened on the 26th October, in Cochabamba. By a decree of August 3, 1864, this college was, however, abolished, and the law of September, 1865, decreed that a general knowledge of agriculture should be imparted in the primary schools.

EDUCATION IN URUGUAY.

EDUCATION IN URUGUAY.

[NOTE.—For the following account of education in Uruguay we are indebted to the report of the Brazilian minister in Montevideo, made to the Brazilian government in March, 1872, and kindly forwarded to this Bureau by the Brazilian minister at Washington.]

LEGAL PROVISIONS FOR PUBLIC INSTRUCTION.

As far back as May 16, 1827, the government of Uruguay, with laudable zeal, established public elementary schools, recognizing them as one of the first necessities of free nations. According to a decree published on the above-mentioned date, a primary school, on the Lancasterian plan, was to be founded at the expense of the national treasury in every town, with a teacher employed at a salary of sixty pesos per month; every child aged seven years or upward should be admitted to these schools free of charge. In every place where a school had been established, there was to be an inspecting committee, composed of a judge and two citizens. This committee was to inspect the schools, to watch the conduct of the teacher and the affairs of the school, and finally to make a report to the government.

On September 13, 1847, a decree was passed creating a new educational authority, to which the management and supervision of primary instruction was intrusted. The preamble of this decree deserves to be given entire: "Education is the creative germ of the happiness and prosperity of nations, because in it dwells the knowledge which produces good institutions, and public and private virtue. The study of its development, its application, and its tendency is not the work of speculation, of individual belief, or of sectarian interests, but belongs exclusively to the government. Being the sole executive of the people whom it represents, to it alone should be confided the sacred trust of the dogmas and principles which form the basis of the very existence of society; on it alone rests the responsibility, and it is its undeniable duty to take possession of the feelings, ideas, and instincts of man from his birth, and to mold them so as to fit him for the conditions and exigencies of the society in which he is to live. In no other way can a commonwealth exist, or can there be that social harmony without which a state possesses neither order and tranquillity nor strength and life. In view of all this the government has decided to devote all its energies to this subject, and has for the safety of the republic decreed," &c.

The duties of this authority, or educational council, are : 1, to promote, diffuse, make uniform and systematize public and, more especially, primary instruction ; 2, to authorize or forbid the opening of every kind of educational institution ; 3, to regulate the conditions on which it is to exist ; 4, to examine the works and doctrines which are to form the basis of the study of moral sciences ; 5, to inspect all educational institutions and to correct abuses ; 6, to watch studiously over the observance of the most perfect harmony between education and the political and religious beliefs which form the basis of the social fabric ; 7, to propose to the government improvements in public instruction. The number of the members of this council was fixed at twelve, to be appointed by the government, with the minister of the interior as president. Vacancies in the council are to be filled through election by the members, the vote being approved by the government. All expenses connected with this council are to be paid from the national treasury.

By decree of March 13, 1843, the regulations for primary schools, public and private, proposed by this council, were sanctioned by the government. Primary instruction was divided into two grades, a lower and a higher one, those schools being termed "complete schools" which embraced both grades. The course of instruction in the "lower primary schools" embraces the following subjects : 1, Christian doctrine and principles of morality ; 2, reading ; 3, writing ; 4, the four fundamental rules of arithmetic ; 5, Spanish grammar ; 6, outlines of the geography of Uruguay. The course of instruction in the "higher primary schools" embraces : 1, the same studies as in the lower primary schools, only carried further ; besides : 2, some knowledge of the privileges and duties of citizens ; 3, linear drawing and elements of geometry ; 4, cosmography and general geography ; 5, outlines of the history of Uruguay and its constitution.

All public schools should, if possible, contain two grades of primary instruction, and be divided into two sections. Pupils who have finished their studies in the upper section ought to be fully capable of entering some institution of secondary instruction.

The teachers in the public schools are appointed by the educational council from among a number of competitors. To obtain a place as teacher in primary schools, both lower and higher, it is necessary, 1, to be not less than eighteen years of age ; 2, to produce a certificate of good moral character ; 3, to pass a competitive examination. When all these conditions have been fulfilled the "council" issues a teacher's certificate. Teachers enjoy the following privileges : 1, exemption from military service ; 2, exemption from any and all municipal offices ; 3, exemption from any public service not connected with education. The following persons can never hold the office of teacher : 1, those who at any time have been condemned to a defamatory punishment ; 2, those who are under the accusation of any crime ; 3, those who have been declared guilty of fraudulent bankruptcy.

Private schools may be established in any part of the republic, but

their programme and course of instruction must previously have been submitted to the "educational council" for approbation, with the sole object that it may contain nothing against public morals or the constitution of the country. Pupils from private schools may be admitted to public schools after rendering proof, by an examination, of their having studied all the subjects prescribed in the public schools. No private school can have more than eight pupils; as soon as this number is exceeded it is considered a public school, and is subject to the same regulations as the public schools.

In no educational institution, either public or private, can any other punishments be inflicted except the following: 1, repetition of the lessons; 2, increased lessons; 3, keeping in after school-hours; 4, standing during school-hours; 5, public notification of expulsion; 6, private or public expulsion. The last-mentioned punishment can only be inflicted for very grave offenses, and only after three notifications.

Teachers who are derelict in their duties are warned, then punished by fines, and finally suspended.

In order to carry out these regulations the council appoints every three months a committee of two from among its members to inspect every school as often as is convenient, but not less than once a month.

The schools in the other departments of the republic (outside of the department of Montevideo) are managed by the respective municipal corporations, under the direction of the "educational council."

The inspecting committee must, at the end of every quarter, make a report to the "educational council" on the general state of the schools, the number of pupils, &c.

Girls' schools are subject to the same laws and regulations as boys' schools, only that more regard is taken to the wants of females by teaching sewing and other female work.

Such is the legislation regarding primary instruction in Uruguay, which, during the twenty-five years it has been in force, would have produced the most beneficial results but for the constant political disturbances, which have prevented the proper carrying-out of many provisions of the educational law, and have kept especially the rural population in a state of deplorable ignorance.

STATISTICS.

The most recent statistics are those of 1868; only of the capital, Montevideo, and the department of that name, there are statistics of the year 1871.

Educational Statistics of 1868.

DEPARTMENTS.	SCHOOLS.			SCHOLARS.		
	For boys.	For girls.	Total.	Boys.	Girls.	Total.
Montevideo:						
Free-schools supported by the municipality of the department	24	20	44	2,269	2,265	4,534
Schools supported by a philanthropical association ..			2			240
Private schools licensed by the government	13	12	25	1,372	667	2,039
Children educated in schools having no government license or at home						1,200
Total of Montevideo, city and department			71			8,013
Canelones			13			598
Salto			11			642
Paysandú			8			476
Cerro Largo			7			488
Colonia			6			344
Soriano			6			330
Tacuarembó			6			307
Maldonado			6			403
José			5			347
Florida			8			216
Minas			4			310
Carmelo			3			296
Durazno			3			248
Total			86			5,005
Total of the whole republic			157			13,018

In the year 1871 the number of scholars in the public schools of the department of Montevideo had considerably diminished, being only 4,995, viz, 2,021 boys and 2,974 girls. The number of pupils in private schools licensed by the government has increased, as in 1871 it was 2,430, viz, 1,714 boys and 716 girls. The number of children receiving instruction in schools having no government license or at home was, in 1871, 3,680, showing a remarkable increase. To appreciate these figures, we give the population of Uruguay according to the *Almanach de Gotha* for 1873: 350,000, and the population of Montevideo about 50,000; including the department, 120,000.

EDUCATION IN PORTUGAL



EDUCATION IN PORTUGAL.

[NOTE.—The following outline of the educational history of Portugal is taken from an article by Alphons Le Roy, professor in Liège, in the 6th volume of Schmid's *Educational Cyclopaedia*.]

EARLY HISTORY.

Portugal is not separated from Spain by any natural boundaries, but from the days of Viriathus and Sertorius it has been independent from that country by the decided wish of the population, who always were firmly attached to their national independence. The Romans, the Goths, and Moors in turn imposed their foreign yoke on the descendants of the old Lusitanians; the first-mentioned left to them the system of regularly organized municipalities, the Goths laid the foundation of the legislative assemblies, in later times called cortes; but neither the former nor the latter were able to change the original type of the inhabitants, or to produce an amalgamation with their neighbors. The Lusitanians were the first nation on the peninsula who conquered the Moors, and for a long time shared the glory of the Spanish chivalry. They did not, however, identify their interests with those of their neighbors; but as soon as possible, in the beginning of the twelfth century, constituted themselves a separate kingdom under a French family of sovereigns. Henry of Burgundy, descendant of Hugh Capet, who had come to the peninsula in search of adventures, and who had married Theresa, the natural daughter of Alphons VI., King of Leon and Castile, was, in the year 1095, by him appointed "Count of Portugal." The name "Portugal," which then appeared for the first time in history, only meant a portion of the province of Beira. After the death of his father-in-law, Henry emancipated himself from the sovereignty of Castile, and his son and successor, Alphons I. Henriquez, definitely adopted the royal title in the year 1140, acknowledging the Pope as his only supreme authority, which protected him against the Castilian claims. During the following century Portugal assumed its present dimensions.

PORTUGAL UNDER THE BURGUNDIAN DYNASTY.

The Burgundian dynasty, which by its foreign policy maintained the honor of Portugal, did no less for the internal development of the country. Portugal, which afterward, through clerical oppression, became a prey to deepest ignorance, was, during the latter half of the thirteenth century, justly considered one of the most enlightened countries of Europe. This

it owed chiefly to the excellent prince Dom Diniz, (Dionysius,) called "*o rei lavador*"—the farmer king—of whom the people, even in our days, sing :

" O rei Dom Diniz,
Que fiz quanto quiz !"

i. e., "King Dom Diniz did what he pleased." Educated by a learned French prelate, Aymeric d'Ébrard, who understood how to bring out all the noble qualities of his mind, he did not content himself with the promotion of agriculture and the endeavor to secure the future wealth of his country by founding a navy and extending commerce, but he also sought, as far as lay in his power, to diffuse knowledge among his people. In the year 1290 he founded at Lisbon that famous university which, eighteen years later, was transferred to Coimbra, brought back to Lisbon in 1338 by Alphons II., and finally, in the year 1557, was again firmly established at Coimbra by João III. Dom Diniz did even more; he took (a very rare case in those times) the most active interest in the education of the lower classes by founding elementary schools, which, in his own words, were to enlighten the masses and free them from the superstitions with which the clergy filled their minds, in order more firmly to establish their supremacy. His successors, however, did not follow up this liberal spirit. King Dom Duarte, and his son Alphons V., who founded the first royal library in Portugal, exercised a very beneficial influence on education and science. Alphons especially endeavored to keep step with the development of the Paris University, but the masses did not reap much benefit from King Dom Diniz's noble intentions. Municipal documents from the year 1385 show that in Lisbon the most outrageous superstitions were widely spread, so much so that even the clerical authorities had to use energetic measures for suppressing abuses. There are no official documents whatever regarding elementary education till the eighteenth century. The only fact that can be ascertained has been communicated by Ferdinand Denis, viz, that in 1551 there were in Lisbon 7 teachers of grammar, 34 teachers of reading, 13 public schools for organ-playing, 14 dancing-schools, and four fencing-schools. There were only 2 female teachers who instructed girls in reading! but there were 12 public "letter-writers," and 430 jewelers. This brief statistical notice shows at one glance the whole civilization of Portugal at that period. A Venetian ambassador writes, at the end of the sixteenth century, that in Lisbon a large number of Portuguese, Spanish, Italian, and Latin books were for sale, but that the prices were so high that poor students would rather loan the books day by day, paying a certain small sum. The chief school was the school of Santa Cruz, which is praised by all the old historians, and for which several excellent teachers had been especially called from Paris. The University of Coimbra was in the most flourishing condition at the time when Camoens studied there, (1539.) One of the professors, Diego de Gorea, who brought Buchanan to Coimbra, and who defended the

philosophy of Aristotle against Ramus, was considered one of the most learned humanists in Europe; Vincenz Fabricius, a German, taught Greek so thoroughly that Kleynærts (Olenardus) is enthusiastic in his praise; Pedro Nuñez was a famous teacher of mathematics and physics; Brissot, a Frenchman, was a most enlightened professor of medicine, and all the faculties could boast of excellent teachers, who spread the riches of their learning among the eager youth and shone as models of brilliant dialectics.

PORTUGAL UNDER THE AVIZ DYNASTY, 1385-1580.

The royal line of Aviz, which followed the house of Burgundy on the throne of Portugal, devoted its attention chiefly to foreign conquests and discoveries and to the strengthening of the colonial empire. They could not better employ the good natural talents of the Portuguese nation and that chivalrous character which is innate in it. The ocean opened to them a wide field for adventures and invited them to voyages into distant countries. During this glorious period Vasco de Gama (1498) discovered the way to India round the Cape of Good Hope; Francisco de Almeida and Alfonso de Albuquerque founded powerful empires in India; Alvarez Cabral, in 1500, discovered Brazil, and the wealth and power of Portugal reached its zenith. But this countless wealth became the source of decadence, the nation became enervated, emigration depopulated the country, and the sinister activity of the inquisition completed the work of mental and moral decline.

PORTUGAL UNDER SPANISH RULE, 1581-1640.

Religious fanaticism, the most arbitrary despotism, and the greatest disorder in the administration, characterized the period of the Spanish rule; the navy was destroyed, and the rich Indian possessions passed into the hands of the Dutch. The tyranny and avarice of Olivarez, the all-powerful minister of the imbecile Spanish king, Philip IV., at last stirred up the Portuguese people; they revolted in 1640, gained their independence, and intrusted the guidance of their country to the family of Braganza, which is still ruling. Peace with Spain was concluded in 1688, the African possessions and Brazil were returned to Portugal, but the great mass of the people, lulled into a mental sleep by ignorance and superstition, seemed to have forgotten their glorious past. Commerce did not again revive, manufactures passed into the hands of the English, and agriculture was entirely neglected. The Jesuits and the nobility divided the revenue of the country between them. Before proceeding further, it will be necessary to glance back and relate the introduction of the famous Society of Jesus into Portugal.

FIRST ESTABLISHMENT OF THE JESUITS IN PORTUGAL.

In the year 1540 King Dom João IV. asked the papal see to send him two Jesuit fathers, which request was eagerly complied with. One of

these was Francis Xavier, the apostle of India. After he, in the following year, had sailed for India, the king immediately determined to found at Coimbra, by the side of the university, that famous Jesuit college from which so many missionaries have gone forth, and which gained such a high reputation in the philosophical world by its faithful adherence to the Aristotelian system of the Middle-Ages. The college at Coimbra was the first the Jesuits possessed in Portugal, and it has always remained their most important stronghold in that country. The so-called "free arts" were taught in this college, *i. e.*, languages, Greek and Hebrew included, belles-lettres and philosophy, corresponding to the lower course of the university; the higher course embracing law, medicine, and theology. The Jesuits obtained from the king the same privileges as the university, and claimed entire independence from that institution. The university, at first indifferent, at last became aroused, and in 1545 forced the college to open its gates and to submit to university inspection. The consequence was a protracted quarrel, which ended in favor of the Jesuits. The nation protested, but in vain; the king personally introduced the Jesuits into a new and liberally endowed building in 1550, for which he himself had drawn the plans. In 1553 the Jesuits were made independent from the university also with regard to theological studies; two years later half the university was in their hands, and all the lay professors were dismissed with life-pensions. A royal ordinance, confirmed by a papal bull, gave to them the whole lower course, established a separate income for them, and freed them from all supervision. In 1558 they obtained the academical privileges for the philosophical examinations, although the university should continue to bear the expense. Since then, in spite of a last desperate effort, education passed entirely into their hands. The College of Coimbra usually numbered 2,000 students, and triumphantly opposed to the advance of modern ideas its philosophical catechism, until the moment when a royal committee, appointed by the energetic minister Pombal, awakened the old complaints against the order, and in judicial form preferred accusations against it.

THE REFORMS OF MINISTER POMBAL.

It would be unjust to trace the whole cause of the downfall of the Portuguese power to the Jesuits, but it must be confessed that they were by no means listless spectators, and that they certainly have not a little contributed toward it. If the annals of their transatlantic missions show many a glorious page, they cannot be declared free of the reproach of having reduced princes and nations in the south of Europe to that state of infancy which was their ideal in Paraguay; they formed a state within the state, and their mysterious power showed itself during two centuries in measures which, in the long run, would have reduced to stupidity the most intelligent nation. Some acts of the great

reformer Pombal (Sebastião de Carvalho) may be severely censured, but it will always remain his glory boldly to have cut the Gordian knot. Endowed with an iron will, and with the clearness of a lofty mind, he undertook the grand work of regenerating his country. His burning zeal embraced all the public interests, the army, the navy, agriculture, and, above all, education. He commenced by banishing the Jesuits from the country, and by confiscating all their property. But like Joseph II. of Austria, "he took the second step before the first," and attempted to carry out his reforms by despotic measures. Fallen into disgrace, he died in solitude. Yet his ideas did not die with him. Even in our days does Pombal's spirit animate all the intelligent minds of the Portuguese nation. The order of the Jesuits had thus, by a single stroke of the pen, been banished from its twenty-four great colleges, and had by one blow lost all its influence and wealth. At the same time (July 28, 1759,) the secularization of public instruction was decreed, and faculties of philosophy and mathematics were founded at the University of Coimbra. In the year 1772 Pombal decreed that a primary school should be established in every community in the kingdom; up to that time the number of primary schools in the whole monarchy had not exceeded four hundred. Greek and Latin had hitherto only been taught in the convents; but Pombal established 257 elementary Latin schools, 21 professorships of rhetoric, history, and literature, 27 schools of philosophy, where logic, metaphysics, and moral philosophy were taught in a one-year's course, and finally, 8 Greek schools. Pombal crowned his work by appointing a "superior council of studies," consisting of the rector and five professors of the University of Coimbra, a secretary, and six other officers; he imposed a tax on wine and liquor, which, under the name of "*subsídio literário*," formed the beginning of a regular income for public instruction, and for defraying the expenses of the council of studies, to which the management of all educational institutions throughout the kingdom was intrusted. The theological seminaries, which had been placed under the supervision of the bishops, were endowed with some of the confiscated property; any one, either layman or clergyman, was empowered to open private schools, on the condition of placing them under government inspection and supervision. The University of Coimbra was remodeled according to the plan of Italian universities, and several professors were called from Italy; but the downfall of Pombal, in the year 1777, brought back everything to its former condition.

FROM POMBAL'S DOWNFALL TO THE PRESENT TIME.

After the downfall of Pombal, the ignorant clergy and the narrow-minded and unpatriotic nobility again took the management of the government into their hands. Academical instruction became a common laughing-stock, and there was a time when any one could obtain a degree by sending a servant with the required fees to the respective authorities. The attendance at the elementary schools decreased to

such a degree that the average number of scholars dwindled down, from 24,000 in 1807, to 8,000 in 1828.

On account of the mental condition of Queen Maria, widow of Pedro III., who died in 1786, the government was intrusted to the heir to the crown, João VI., the prince of Brazil, in 1799. Wavering between French and English influence, the regent excited the anger of Napoleon I. by his refusal to close his ports to the English. In 1807 Marshal Junot entered Portugal with a French army, and the royal family had to seek refuge in Brazil, where they remained till 1821. The Portuguese complained, and not without cause, that, even after the French had been driven out of the country, they had to be governed from a distant colony, while at the same time Brazil ceased to be treated as a province. The revolution of 1820, which decided the return of the king to Europe, had the immediate consequence of introducing a constitutional government in Portugal; but, as the Portuguese Cortes denied the Brazilians equal rights, they protested and separated from the mother-country, retaining however the Braganza dynasty. The first absolutistic reaction of Dom Miguel proved a failure: his brother, Dom Pedro, the oldest son of Dom João VI., resigned his European crown in favor of his oldest daughter Dona Maria da Gloria. His is the honor of having given to Portugal during his short reign the constitution of April 29, 1826, which, in all its essential points, is still in force. During the following years Portugal had to suffer the tyranny of Dom Miguel, regent till Dona Maria came of age. This state of affairs came to an end in 1832. Two years later Dom Miguel surrendered, Dom Pedro died, and his daughter Dona Maria, declared of age by the Cortes, would have inaugurated a new era of prosperity for her unfortunate country had not the envy and passion of the statesmen, their egotism and ambition on the one hand, and the excited condition of the democratic party on the other, continually produced new disturbances. During the fifteen years 1836-1851 there were no less than seventeen revolutions in Portugal. After the military revolution of Marshal Saldanha in 1851, some changes in the constitution became necessary; the party of progress, which hitherto had known no bounds in opposing the government in the Cortes, now consented to support the government, and lasting peace could be hoped for. The reign of Dom Pedro V. in 1855 commenced under the most favorable auspices, but the young and beloved prince died prematurely November 11, 1861. His brother Dom Luiz, who has received a most liberal education, and is animated with the noblest aspirations for the welfare of his country, is zealous in carrying out the reforms planned by Pombal, which had been continually retarded by the frequent revolutions. The violent political agitations have at last come to an end, and the Portuguese nation, so long a prey to ignorance and egotistical passions, gradually resumes its proper place among the civilized nations of Europe.

PRESENT STATE OF EDUCATION IN PORTUGAL.

[NOTE.—For the following report on primary education in Portugal we are indebted to an article on this subject in *O Novo Mundo*, (April 23, 1873,) a monthly illustrated Portuguese journal, published in New York, and kindly forwarded to this Office by the editor, Mr. J. C. Rodrigues. In the brief account on secondary and special instruction we have chiefly followed Professor Le Roy's article in Schmid's *Educational Cyclopaedia*; and also a report by the Brazilian minister at Lisbon, kindly forwarded to this Bureau by the Brazilian minister at Washington.]

PRIMARY EDUCATION.—COURSE OF INSTRUCTION.

The decree of September 20, 1844, divided primary instruction into two grades, prescribing the following course of instruction for the first grade: Reading, writing, arithmetic, elements of Christian doctrine and morality, grammatical exercises, principles of chorography and history of Portugal; and for the second grade: Portuguese grammar, linear drawing, general history and geography, sacred history, elementary arithmetic, elementary geometry. Recently the course of instruction in the first grade has been somewhat enlarged, transferring to it some of the studies of the second grade, penmanship, legal system of weights and measures, &c. It must be said that there is no general and well-defined programme for the elementary schools, and that the condition of the larger portion of the elementary schools of the kingdom is unsatisfactory, partly on account of the incapacity of the teachers, partly because the few schools which have good teachers want pupils, many parents keeping their children from school to assist them in their agricultural and industrial pursuits, so that few children learn more than to read badly and to write incorrectly. Thus the brutality and stupidity of the parents, and the culpable negligence of the government in permitting the law which imposes fines and even the loss of political rights on teachers neglecting their duty, and on parents who do not send their children between the ages of seven and fifteen years to school, to remain a dead letter, are the causes of the lamentable disproportion (one to sixteen) between the number of children attending school and the number that reach any degree of proficiency. The cause of the great ignorance of most of the teachers is obvious, and will remain so till the government pays them a better salary, as very few young men care to become teachers when they have the prospect of making an infinitely better living in almost any other profession or trade, while as teachers they see nothing before them but a life full of vexation and want.

ATTENDANCE AT SCHOOL.

During the scholastic year 1871-1872 the public elementary schools (day- and night-schools) had enrolled 113,097 children, viz, 92,834 boys and 20,263 girls; but only 52,190, viz, 41,599 boys and 10,591 girls, attended regularly; and at the end of the year only 7,107, viz, 5,919 boys and 1,188 girls, could receive the character "prompt in attendance." In comparing these figures with the last census of Portugal we arrive at the following deplorable result: Proportion of attendance to the male population, 1 to 50; and to the female population, 1 to 215. The scholastic year of ten months has about 230 school-days, approximately representing 1,440 school-hours for every primary school.

WANT OF GOOD TEXT-BOOKS.

The want of good elementary text-books is another cause of the little progress made in the public schools. There are no text-books officially adopted for primary instruction. The council of public instruction sanctions some every year, but leaves the choice out of a constantly increasing number to the teacher in every school. The same is the case with regard to the methods of instruction; each teacher follows the one which he prefers, and some follow no method whatever. This want of uniformity in the methods of public instruction shows itself even in the schools of one and the same city. Some teachers use the simultaneous method, others the mixed (mutual and simultaneous) method, and a few the so-called Portuguese method which the Viscount of Castilho endeavored to introduce in the country.

INSPECTION.

The inspection of schools, which in every country is acknowledged as essential for the organization of public instruction, is in the most miserable condition. There are in each of the twenty-one districts of the kingdom commissioners of education, whose duty it is to inspect the schools; but they do not exercise their power, nor are they able to do so, being almost all rectors or professors of national lyceums, receiving as commissioners only a very insignificant remuneration, scarcely sufficient to pay their traveling expenses, even if they should only undertake to visit the schools once a year. They are under the supervision of the respective political authorities, who, however, are generally not able to inspect the schools, and do not receive any instructions as regards such duties, and who, even if they wished to fulfill their duties in this respect, could only do so by neglecting their administrative duties. The result of all this is that, with rare exceptions, the public schools do not enable pupils to pass the examination in primary subjects which is required for admission to the lyceum. Of all the pupils marked "prompt" in the private school-examinations, not one in fifty is fit for the public examination of admission.

TEACHERS.

The salaries of teachers are wretched. Teachers for lifetime (*profesores vitalicios*) receive 150 millreas in Lisbon, Oporto, and Funchal, (about \$175,) and in other places 100 millreas. Temporary teachers receive 140 millreas in Lisbon, and 90 in other places. Teachers are obliged to keep school six hours per day five days each week. As a general rule school is held during day-time every week-day, except Thursdays and ecclesiastical holidays, in two sessions, one in the morning and one in the afternoon; but if local circumstances make it necessary, the school-hours may be transferred to the evening.

NIGHT-SCHOOLS.

There are in various places night-schools for adults, partly kept by the regular teacher of the public school, partly by private individuals. The Minister Marteno Ferrão was very active in creating this class of schools, and organized them by a regulation of November 28, 1867. As a general rule the night-schools are confined to the instruction of adults, only in exceptional cases boys younger than fourteen years are admitted. There are no night-schools for females. Those night-schools which are kept by the regular public-school teacher are free, and are in operation during the whole scholastic year, either three or five times per week. Teachers who keep night-schools are exempt from teaching one of the daily sessions, and receive a small remuneration either from the government, the district, or municipal authorities. Night-schools kept by private individuals are supported either by corporations or by private munificence. The total number of night-schools in the kingdom is about 580, with 7,000 scholars.

ESTABLISHMENT OF NEW SCHOOLS.

With regard to the establishment of new primary schools, the government is authorized to establish schools for both sexes, and in any locality, without consulting the legislative assembly, keeping in the limits, however, of the sum voted for the contingent expenses of primary instruction. The way of proceeding is briefly this: some town, or parish, or municipal authority wishing the establishment of a new school makes an application to the governor of the province, making at the same time the indispensable offer of a school-house and school-furniture, and also, if possible, books for poor scholars, rewards for diligent scholars, a dwelling-house for the teacher, &c. The governor refers the matter to the general council of public instruction, mentioning the local circumstances, the necessity for such a school, the probable number of pupils, &c. The consulting council gives its opinion, and if this is favorable, the executive decrees the establishment of the school, publishing it in the official journal, appoints a committee to see to it that all the conditions are fulfilled, and also to examine into the sanitary condition of the school-

building. After this has been found to be satisfactory, a teacher is appointed, after a competitive examination, from the various applicants for the place. Candidates must be more than twenty years old, possess certificates of ability and good moral character, and must have satisfied the law of military service.

STATISTICS OF PRIMARY INSTRUCTION.

DISTRICTS.	SCHOOLS.			TEACHERS.			SCHOLARS.	
	For boys.	For girls.	Total.	Male.	Female.	Total.	Enrolled.	Regular in attendance.
Aveiro	122	18	140	122	18	140	8,155	2,620
Beja	53	11	64	53	11	64	3,661	898
Braga	106	11	117	106	11	117	7,769	3,219
Bragança	107	15	122	107	15	122	4,762	3,083
Castello Branco	91	16	107	91	16	107	4,784	1,939
Coimbra	129	19	148	129	19	148	7,506	4,095
Evora	40	9	49	40	9	49	2,520	1,363
Faro	46	4	50	46	4	50	2,638	850
Guarda	174	26	200	174	26	200	9,268	3,221
Leiria	77	11	88	77	11	88	3,421	2,308
Lisboa	135	46	181	137	46	183	10,557	6,450
Portalegre	52	12	64	52	12	64	3,313	654
Porto	131	28	159	131	28	159	9,422	5,646
Santarém	92	16	108	92	17	109	4,566	1,465
Vianna do Castello	83	5	88	83	5	88	5,943	3,327
Villa Real	142	21	163	142	21	163	6,862	3,470
Vizeu	222	29	251	222	29	251	12,021	2,655
Total of the continent ..	1,802	297	2,099	1,804	298	2,102	105,168	47,263
Angra	34	6	40	34	7	41	2,084	1,362
Funchal	24	9	33	24	9	33	1,377	653
Horta	29	13	42	29	13	42	2,615	1,876
Ponta Delgada	21	9	30	21	9	30	1,853	1,036
Total of the islands	108	37	145	108	38	146	7,929	4,927
Total of the kingdom	1,910	334	2,244	1,912	336	2,248	113,097	52,190

SECONDARY EDUCATION.

After the establishment of a constitutional government, secondary education in Portugal, which up to that time had been confined to the study of the Greek and Roman classics, took a new direction. It cannot be denied that all the political parties which succeeded each other in the government of this beautiful country were animated by the most laudable zeal for promoting the intellectual welfare of the people, and did all in their power to diffuse education in every part of the country. The condition of the political organization, and the varied interests springing from it, made a complete reform of all grades of public instruction more indispensable than ever.

The establishment of national lyceums in the capitals of the administrative districts tended greatly to the better development of secondary instruction by enlarging the course of instruction, and by introducing the elements of physical and mathematical sciences, of natural history, of the graphic arts, and their application to commerce, industry, and agriculture, thus realizing an eminently civilizing and liberal idea, as the Marquis de Avila e Bolame well remarked in a circular proposing a re-

form of the course of instruction. The national lyceums form in fact the weightiest element in the reformed system of general education. The institutions are frequented by all those who wish to prepare themselves for higher scientific studies, and by those who intend to devote themselves to more arduous labors, which, perfected by the light of science, are the essential conditions of the life and prosperity of modern society. It is acknowledged, however, that these institutions cannot well answer their true object so long as elementary education is so backward, and so long as there are no intermediate schools where pupils can study the first elements of literary and scientific knowledge, which, according to the natural development of the intellectual faculties, are to be perfected by secondary instruction, as the essential basis of a solid education, and not with the sole aim of forming the preparatory studies for the different spheres of public life. Superior instruction alone entitles a man to aspire to government offices, and the young men are led by by-paths through which they can in less time enter upon superior studies and obtain academic degrees. For this reason the secondary studies are gone through superficially, and sink down to the level of public instruction, producing, with rare exceptions, an incomplete and mechanical education, utterly prejudicial to those solid and thorough studies which alone constitute true mental culture. These facts were duly appreciated, and revealed the sore point in this system of public education, the inevitable decadence of secondary studies, which, reduced to simple preparatory instruction, could not contribute anything toward the moral and intellectual culture of the nation, toward true civilization and true liberty. In order that secondary instruction may reach this lofty aim, it is indispensable to make it truly useful, organizing it on a broad and solid basis, calculated for the general and harmonious culture of all the human faculties.

Literary education in Portugal is at present imparted by professional instruction; the sciences and their application hold their proper place in the course of instruction, and the national lyceums are the centers of this general education, so profitable to the individual and to society. Considering that scientific education would always be defective without the greatest possible amount of literary studies, and with a view of making the lyceums answer this twofold end, the number of lyceums has been limited to those absolutely necessary, establishing at the same time, by the side of the lyceums, courses of instruction where some of those subjects may be studied which are not taught in the lyceums.

It was thought indispensable to create academical districts, which might form the other great centers of the literary and scientific administration of the public and private establishments. Economical and other reasons determined the choice of these districts, and Lisbon, Oporto, and Coimbra, as centers of special and superior instruction, were designated as the seats of the three districts. The small revenue of the state requires the utmost parsimony in the public expenses, and

this is the cause of the miserable salaries of the professors, who are the worst-paid class of public servants. The full liberty of teaching which exists in Portugal, has produced many private secondary schools, which keep up a strong emulation with the public schools. The course of instruction in the lyceums embraces the following subjects: Portuguese, Latin, arithmetic, geometry, elements of algebra, philosophy, morals, principles of natural law, rhetoric, classical and especially Portuguese literature, history, chronology, and geography. Some of the lyceums introduce also other subjects in their course; thus at Lisbon: Greek, Hebrew, French, English, Arabic, commercial sciences, applied mechanics; at Oporto: Greek, French, English, and German; at Braga and Evora: Greek, French, English, book-keeping; in Portalegre, Villa Real, and Castello Branco: agriculture, &c.

There are no recent statistics of secondary instruction; therefore the statistics of 1855 are given; according to these there were in the 20 lyceal districts 210 teachers, and 3,338 students.

SUPERIOR INSTRUCTION.

There is only one institution for superior instruction, viz, the University of Coimbra, which has five faculties, viz: 1. Theology; 2. Law; 3. Medicine, surgery, and pharmacy; 4. Mathematics; and 5. Philosophy, which means only natural sciences, physics, chemistry, &c.; as also agriculture, technology, and veterinary surgery. There are three degrees, viz: Baccalaureate, licentiate, and doctor.

University instruction in Coimbra, till quite recently, lacked life, and there never was a complete and harmonious group of lectures on the humanitarian sciences and philology, and on ancient and modern literature, such as the *faculté des lettres* in France. Till the year 1859, logic, morals, and metaphysics were confined to the lyceums, where the antiquated methods reigned supreme. When, impelled by the powerful influence of modern ideas, a young man emancipated himself and resisted the soporific influence of traditional methods, he would rather plunge into the whirlpool of political party agitation than employ his leisure to increase his knowledge and thus to become better able to grapple with the great questions of the day. There are some very honorable exceptions, but mostly of Portuguese who have studied in foreign countries. The enervating climate and the heat of revolutionary passions have doubtless contributed toward keeping up this turbulent, impatient spirit; but the Portuguese race has such a happy disposition, that there is every reason to hope for the best results from the reforms which have been introduced. In this conviction the late king, by a decree of June 8, 1859, founded at his own expense, in Lisbon, a sort of *faculté des lettres*. This higher college has five professorships: 1, Portuguese and universal history; 2, Greek and Latin literature; 3, modern European, especially Portuguese, literature; 4, philosophy; and 5, history of philosophy. The professors have equal rank with

those of the University of Coimbra. After the two-years' course has been finished, there is an examination, and theses have to be defended, after which the successful candidates receive the diploma of *graduados em letras*, (graduates of literature.) This institution has exercised a beneficial influence on the University of Coimbra, and ancient and modern languages and literature are studied there more than formerly.

SPECIAL INSTRUCTION.

All the Portuguese special schools are officially classed under superior instruction. Prominent above all others is the Royal Polytechnic School at Lisbon, organized in 1779 under the name "Royal Naval Academy," reorganized by a decree of December 10, 1851, and since 1860 under the ministry of the interior, because it is intended as well for civil engineers as for military engineers and artillery officers. Scholars enter at the age of fourteen, after having passed a very rigorous examination in French, logic, linear drawing, arithmetic, elements of algebra, geometry, trigonometry, mathematical geography, elements of natural history, as likewise in all the elementary studies. The course of instruction lasts from three to four years, and during this time the military scholars, called "cadets," engage in practical exercises in that branch of the military service in which they are to serve. The school is under the direction of a lieutenant-colonel. There are eleven professorships, each with a professor and an assistant professor, viz, mathematics, mechanics, surveying, astronomy, physics and chemistry, geology, mineralogy and metallurgy, botany and agriculture, zoology and comparative physiology, political economy, and commercial and administrative law. Connected with the school there is a library and a well-arranged museum of natural history.

The polytechnic academy at Oporto is at the same time a naval school, a business college, and a high school of arts and trades. It has nineteen professors and assistants.

There is no school of mining, but mining engineers study at foreign schools, and the government allows every year at least three to study at the public expense.

Portugal possesses ten agricultural schools of different grades, viz, six instruction-farms in the country, three district-schools, in Lisbon, Evora, and Coimbra, and finally the Normal-School of Agriculture in Lisbon, connected with the district-school in that city, under whose supervision there is since 1853 the botanical garden at Ajuda. Every district-school has a model-farm, the revenues from which belong to the proprietor, and which is managed by him with a special view to agricultural instruction. The government pays him a fixed salary, and furnishes an assistant. There are ten free places in every district-school. Students enter at the age of sixteen years, and the course of instruction lasts three years; in the normal institute at Lisbon it lasts five years.

There are two institutions for art and industry, one in Lisbon, founded

in 1836, and united with the polytechnic school in 1844, with twelve professors and assistants, and one in Oporto, connected with the polytechnic academy, with eight professors and assistants. There are in these institutions, among the rest, courses of historical painting, anatomy, optics, perspective, &c.

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CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 2—1873.

SCHOOLS IN BRITISH INDIA.

WASHINGTON:
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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., July, 1873.

SIR: In pursuance of the plan that I have followed under your direction, I have the honor to recommend for publication the following article, which contains a sketch of Education in the British East-Indies, by the Rev. Joseph Warren, D. D., a gentleman specially fitted by his ability and by his long experience to prepare a very valuable statement upon the subject.

The paper contains a trustworthy *résumé* of the latest information in regard to the education of a people numbering more than a hundred and fifty millions, a people so densely crowded as to average one hundred and sixty inhabitants to the square mile, and yet so widely separated into classes by the impassable barriers of caste; a people so ancient in origin and having a history so checkered with the light of rising civilization and the darkness of prevailing paganism. It contains facts of rare value to the educators of a young nation with a past so eventful and a future so full of hope as ours.

I have the honor to be, sir, very respectfully, your obedient servant,
JOHN EATON,
Commissioner.

Hon. COLUMBUS DELANO,
Secretary of the Interior.

Approved and printing ordered.

B. R. COWEN,
Acting Secretary of the Interior.

SCHOOLS IN BRITISH INDIA.

INTRODUCTION.

Two difficulties have been encountered in making this sketch of Education in India, the influence of which very possibly will appear in the course of it. The first difficulty was found in the lack of all reliable history of the ancient Brahmanical and Mohammedan schools. When it is known that schools have existed from time immemorial, it seems strange that no more can be said about them. But all history in this country, relating to matters more than three centuries old, is obscured by fable and exaggeration, or is known only through faint and uncertain tradition. The second difficulty was found in the great number of reports that had to be examined. These reports from different provinces are made up on as many different plans. Statistics given in one are omitted in another. Some are overweighted with remarks about individuals, and some are filled with other matters of only local interest. It has been with much labor that the matter contained in these few pages has been extracted from them.

Indeed, great brevity of statement has been found necessary, because of the variety of schools that are to be described and the extent of the field of observation. In order to give a perspicuous view of the whole subject, the following arrangement has been adopted :

1. Ancient Hindú and Mohammedan and classical schools.
2. Indigenous vernacular schools—ancient.
3. Government schools, colleges, and universities.
4. Missionary and private schools.
5. Female schools.
6. Superintendence.
7. Ways and means.
8. Remarks.

ANCIENT HINDÚ AND MOHAMMEDAN CLASSICAL SCHOOLS.

Ancient Hindú schools.—It is impossible to learn at what time, or in what place, the ancient literature of the Hindús was first cultivated. It is covered by the shadows of a dim and unknown antiquity. There is no doubt that the upper classes of this people came into India from some place in Central or Western Asia, and that they are Aryan by descent. We can trace their origin through their language and traditions with sufficient certainty, but of their earlier history we can learn scarcely anything. It is probable that they brought their oldest books

from their former country into India. The Brahmins, the priestly tribe, say that they are descended from the seven Rishis, or saints, who are celebrated and indeed almost deified in Hindú mythology. Their names are Bhrigu, Angirah, Atri, Viswamitra, Kasyap, Vashisht, and Agastih. It is probable that they were the authors of the earliest Hindú writings, the four Veds, or, if the Veds are still more ancient, the commentaries on them may have been their works. That they were merely celebrated professors of language, theology, and philosophy is evident. That they had sons or disciples, who succeeded to their places, arrogated to themselves their influence and authority, and thus founded the various tribes of Brahmins, is also evident. We cannot say when they lived, but it is believed that the earliest among them flourished nearly three thousand years ago.

From the time of the Rishis till the present day the mode and extent of instruction among the Brahmins have been much the same. They have taught comparatively few persons in each generation, because they were unwilling that their monopoly of influence should be shared by others. They enacted that the two castes next below themselves should not learn to read, but might bear the sacred books, and that the fourth-caste men should be accursed if the sound of the holy words reached their ears. All that we know with certainty of their schools is that at a very early period Kashmir and the now ruined city of Kanauj were celebrated as the seats of Brahmanical learning, and that, at a later time, Benares and Nadiya took their places. For hundreds of years these latter places have had what we may call colleges, though they very slightly resemble American colleges. Learned Brahmins live at those cities, occupying their time partly in priestly offices in the temples, partly in their duties as family priests, like the confessor in Romanist communities, and partly in giving instruction in the Sanskrit language with its religion and philosophy. Young Brahmins, ambitious of distinction, resort to them. The course of study consists chiefly of committing to memory a most voluminous grammar and dictionary in Sanskrit, and in reading systems of philosophy replete with hair-splittings, which are useless except in producing acuteness rather than strength of intellect. Learning Sanskrit in this way moderately well requires ten years' hard labor; and to become a Pandit of reputation is a life-time's work. Some few of the pupils used to learn astronomy by the help of some old tables, the authors of which left no equally qualified scholars behind them. Some learn a smattering of medicine, but according to a system exploded a thousand years since.

The desire to study the Hindú mind, religion, philosophy, and history, through this sacred language, may naturally be entertained by some European and American scholars; and, of course, Brahmins desire it even more, from the power it gives them over the minds of their fellow countrymen. Yet, a distinguished Hindú writer has said that it is a

life's work to learn Sanskrit, and when one has learned it he finds no literature or science in it worth knowing.

Not one in a hundred Brahmans ever could afford to study at their colleges. Very many of them only learned to repeat the Sanskrit forms of prayer and incantations used in their worship and ceremonies, with only traditional knowledge of their meaning. Still larger numbers fell into secular employment of various kinds, and have no learning.

Nothing can be said about the mode of instruction in these Hindú colleges except that there was no system. Each teacher took his own way. They explained the meaning of words and sentences; and depended almost entirely on their pupils' powers of memory. No example can be found in their practice which is worth imitating; and only the exceedingly patient devotion of the pupils is commendable.

Mohammedan colleges.—During the reign of the Mohammedans over this country they had some flourishing institutions for the cultivation of Arabic and Persian literature and philosophy. The former was their religious language, and it was even more necessary among them to study it than is among us to learn the original languages of the Bible, because it has always been a maxim with them that the translations of the Kuran are of no authority, if, indeed, it be lawful to translate it at all. Therefore by who wished to be religious teachers were obliged to learn Arabic. At the same time the Persian was the court language; and all the government business of the country was done in it. And in this was all the literature and philosophy for which they cared. Therefore kings and great men endowed schools for these languages. For instance, Shah Jaiyun built for himself a very large tomb near Delhi, and surrounded the quadrangle in which it stood with cloisters and colonnades for the accommodation of teachers and pupils. For the support of these, he assigned the revenue of certain lands. Many others followed the royal example. Some of the kings, being zealous for their faith, assigned lands to priests near various cities, on condition that they should try to convert Hindús to Islam, and teach young men. All these schools were intended only for the purposes above indicated. They taught no science except what they thought to be the ancient Greek system of medicine. They cultivated logic and rhetoric with much success; and speculated somewhat as the ancient Greek philosophers did. But they communicated scarcely any true knowledge of the material universe or of anything in it. Whatever may be true in the accounts that we have of the learning of the Moors and Saracens in Spain and elsewhere, their co-religionists brought no such valuable knowledge to India. And now that it is offered to them, the most of them despise it. They have often said to me that God had given them the upper rank in the world, by bestowing on them the knowledge of logic, mental and moral philosophy; while he has given to Europeans only skill in the material arts proper for mechanics to know; that the realm of mind was theirs, and that of mathematics.

Most of the pupils in these schools learned no more Arabic than to repeat the daily prayers without knowing their meaning. Of Persian, as a spoken language, they obtained a greater knowledge. Their philosophy was often very daring, intruding into the sphere of revelation, and giving an account of everything, reminding one of the old monish book *De omnibus rebus et quibusdam aliis*. It not only provides a sphere for things that will be, one for things that are, and one for things that have been, but also one for possibilities—things that might, but never will, be. Their history was entirely unreliable in most points; and even so far as it went was rendered valueless by leaving out all account of Europe with its multifarious relations to Asia. The Rome of Mohammedan history, as taught in these colleges, was Constantinople; and it was difficult to find a man among their graduates who had the slightest knowledge of Rome in Italy. Their history of Alexander the Great was utterly fabulous. This course of education produced exceedingly polished and disputatious men, but no scholars worth the name.

These old Hindú and Mohammedan institutions forcibly remind one of the academies and schools of ancient Greece and Rome. Their character in all countries seems to have been much the same, save that the temperament of the more northern peoples caused the schools and their philosophy to bear a less trivial character than those of India. The civilization produced by such a system of education has been similar in all countries—the elevation of the few and the degradation of the masses being its direct and inevitable effect. We have not space to dwell on this subject here; but it is one well worthy of the attention of the educator and the philanthropist.

Most of the old Mohammedan endowments, long since ceased to be useful to the cause of education. Many of the missionary dotations of land have become mere hereditary estates, the original purpose of which has been practically forgotten. The endowments of the other kind were forfeited by the great rebellion of 1857; and the present government does not think it would be right to restore to their former position teachers who then plotted against the authorities that had protected them. Until this mutiny, the British had scrupulously maintained in existence all the institutions founded, so far as leaving their endowments untouched went; but when these schools were found to have been the seats of treason, and have cultivated bigotry and overweening self-conceit more than anything useful, the government took no further care of them.

ANCIENT INDIGENOUS SACULAR SCHOOLS.

Before the advent of the English in this country the spoken languages of the people were despised and little cultivated. The Mohammedans ruled nearly all the country and introduced the Persian as the

language of all their tribunals and of polite society. The Brahmans talked with the people in their dialects, but thought nothing worth studying but the dead Sanskrit. So it happened that the vernaculars were used only by the common people, and in private business. Schools for teaching them had scarcely any other purpose than to enable traders, landlords, and clerks to keep accounts and village-records. But the vernaculars are in no sense mean languages. They are pleasant in sound, flexible, and capable of expressing the nicest shades of thought; and they are not difficult. The people like tales and poetry in their own tongue; and a few books were composed or translated for them. These excited more desire to learn to read. Schools grew up in many cities and villages, in which reading, and writing on slates, painted boards, palm-leaves, &c., and keeping of accounts, were taught.

The teachers of these schools usually had very little education. Reading with hesitation, writing without any system of spelling or punctuation, and elementary arithmetic, was the common result of all their teaching. The school-houses were mere sheds; the seats were the bare clay floor; wooden tablets or palm-leaves supplied the place of slates and writing-books, and fragments of ill-written manuscript that of reading-books. No boys attended the schools who could not pay their teachers something, though the fees were exceedingly small; and thus the vast majority had no opportunity to learn, since five out of six families in this country are, and have always been, crowded down to the meanest and scantiest food and clothes with which life can be sustained. The boys were never compelled by their parents to attend school, but came while the teacher could tease or coax them to do so. Most of those who did attend fell off before learning anything of consequence; and almost all who continued in school were content with the merest elements of what was taught. Some who went into business as bankers or merchants, learned to write an alphabet peculiar to their occupations, which no one else could read, and acquired the arithmetic that was necessary to carry on their business. But this knowledge was very much oftener acquired during the business-apprenticeship than in school.

These village-schools were at one time very numerous. A report concerning them says that in 1814 there were 100,000 of them in Bengal alone. Probably this was an exaggerated statement; for we find that in those days only one man in three hundred could read passably well; five or six with difficulty, blunders, and uncertainty; and not one woman in ten thousand knew a letter. This class of schools still exists here and there; but recent improvements and government-schools have almost put them out of fashion. It is probable that many of the lower-class government-schools, to be mentioned hereafter, partake largely of the character of the old village-schools, and are only very gradually becoming better.

GOVERNMENT-INSTITUTIONS.

The whole subject of the education of the natives of this country was, for a time, ignored by the government of the East-India Company, and the only means of public instruction were employed by the natives themselves, as already indicated. The Brahmans and leading Moham-medan scholars, who might easily have made themselves masters of a popular movement in the direction of secular education, because they already had decided influence among the people, and were possessed of superiority of mind and talent, neglected their opportunities. They had the overweening pride that sometimes infests churchmen, and prevents them from seeing that the world is going on and leaving them behind. A lower class of Hindús, called the Kayath, or writer-caste, sought the learning that would qualify them for subordinate posts in the English courts, and in a great measure supplanted those leading classes. The English people seem to have become alarmed on account of this state of affairs, thinking that if this process went on, and the upper classes of the natives did not obtain employment under the government, they would become hostile to it. In those days the claim of their subjects to general education never seems to have occurred to the rulers here; but they thought to conciliate the upper classes by offering them instruction and offices. With these ideas in view, Warren Hastings, then governor-general, in 1780 established a Mohammedan college at Calcutta at his own expense. The declared objects of this college were

✓)) "to conciliate to the English rule the Mohammedans of Bengal, and to procure competent officers for the courts of justice." This school was assumed by the government in 1782. In 1791, for a similar purpose, Mr. Jonathan Duncan, resident of Benares, founded a Sanskrit college in that city, "designed to cultivate the laws, literature, and religion of the Hindús, and to supply qualified Hindú assistants to European

✓ judges." Both of these institutions originated in this country, without special orders from the home government, and were devoted to Oriental learning only.

Very little, indeed, was done after this till the East-India Company's charter was renewed in 1813. In that instrument it was provided that the government of India should expend \$50,000 annually, "out of any surplus which may remain of the rents, revenues, and profits" after defraying all civil and military charges, to promote education. It does not appear that the court of directors, in ordering this uncertain expenditure, had any definite design as to the learning or sciences that were to be promoted by it; but the general drift of their institutions in regard to it was all in favor of Orientalism. They thought the old mode of instruction among the Brahmans might be continued, and the teachers give lessons to their pupils at their own houses! This grant, however, was not actually used by the Indian government till 1823.

✓ In 1815 was established the Anglo-Indian college at Calcutta, not by

the government, but by subscription. This was the first real step, on the part of others beside missionaries, to bring the English language and European science to bear upon the natives. It went into actual operation in 1817, but languished six or seven years. The government offered help if it might appoint a visitor to exercise some sort of control over the course of instruction, but its interference was strongly resisted by the majority of the subscribers. At length, when they saw that their institution was moribund under their management, they consented to receive the assistance and supervision. Still, the government so managed the affair that it seemed to be intended that whatever of European science and literature might be conveyed to the native mind should be conveyed through native media—that is to say, through Arabic and Persian for the Mohammedans, and Sanskrit for the Hindús.

In 1823 the governor-general appointed a general committee of public instruction, "to ascertain the state of education in the Bengal presidency, of the public institutions designed for its promotion, and to suggest to the government such measures as it may appear expedient to adopt, with a view to the better instruction of the people, the introduction among them of European arts and sciences, and the improvement of their morals." Scarcely ever had a committee or any educational agency a more important charge; and no one certainly ever more thoroughly, persistently, yet honestly abused a trust. Two ideas hindered them from seeing what ought to be done: first, they were devoted Orientalists, thinking nothing could be done in the East except through its learned languages; secondly, that as they could not reach all the people, they ought to confine their work to "the respectable rather than the indigent classes." They persisted in these notions till they became more a hinderance than a help to the work of education. They were also nervously anxious to avoid all suspicion of proselytism; and the government authorities took so much pains to this end that the native mind was continually on the watch, and always fearing that some trickery was at the bottom of so much precaution. They sought to win the confidence of the influential classes, and gained the reputation of being afraid of them.

A great controversy grew up between this committee and the court of directors in London in regard to the propriety of cultivating Arabic, Persian, and Sanskrit almost exclusively. The directors, being men of business, could see what would be practically useful; the committee, consisting of men already known as Oriental scholars, could not see the practical through the haze of their own learning. Perhaps a similar thing has happened in other places. The court of directors, in a dispatch to the committee, said: "In professing to establish seminaries for the purpose of teaching mere Hindú or mere Mohammedan literature, you bound yourselves to teach a great deal of what was frivolous, not a little of what was purely mischievous, and a small remainder indeed in which utility was in any way concerned." The committee earnestly combated

this idea, and they persistently maintained their views even after the natives themselves began to cry out for instruction in European literature and science, and to protest against Orientalism. It took twelve years of earnest controversy to bring the committee to reason on this point.

About the year 1827 several government-schools were established in some of the principal cities. The court of directors became alarmed by the progress of the work, and reminded the governor-general that they had allowed only fifty thousand dollars for it, and that only contingently, while he was likely to expend two hundred thousand!

In 1830 the court again urged the government of India to promote the study of English, and hoped that through it the higher tone and better spirit of European literature would produce a beneficial effect on the natives. The governor-general in council published a resolution ordering the schools to be conducted according to this policy.

At the end of 1831 the committee reported 14 schools under its control, with 3,490 pupils. In some of these institutions the cost of educating each pupil was about one hundred dollars per year; but this high figure was partly due to the fact that in the Oriental departments the pupils were paid from two and a half to four dollars a month for attending. It was, however, soon found that pupils were willing to pay fees for English and vernacular instruction, while in the high Oriental departments they would not come without stipends; and that these beneficiaries grumbled against the government for having induced them to spend so much time in gaining an education that fitted them for no employment by which they could live. The newly-awakened zeal for English caused the authorities in some parts of the country to banish the vernaculars, as well as the learned Oriental languages, from their curriculum. This was a great mistake, afterward to be corrected.

It is a curious fact that the Asiatic Society of Bengal, a body formed for the encouragement of all useful learning, and containing the most learned Europeans in India, took up the fight in behalf of Orientalism, and resolved strongly to memorialize the court of directors not to cease from the attempt to make Sanskrit and Arabic the media of high education in European science and arts, characterizing the resolution of the governor-general in council as "destructive, unjust, unpopular, and impolitic, not far outdone by the destruction of the Alexandrine library itself." The Orientalists not only wished that the old languages should be studied as classics, but they contended that translations of all works on European science and art should be made in Arabic and Sanskrit, and all the studies of the schools conducted in them. Was there not a time when learned men believed that a Greek grammar *must* be written in Latin? An anecdote related by Bishop Heber will be found hereafter, which shows what kind of science was likely to be taught on this projection.

The next step of the government was to appoint Mr. Adam, in 1835, to examine into the state of vernacular education in Bengal. Mr. Adam

spent three years in the work, and made elaborate reports. They agree essentially with what has been already said of the village-schools in this paper. The measures recommended by Mr. Adam were most judicious, but the committee of public instruction considered them impracticable, and adopted a course that tended rather to destroy the indigenous schools than to improve them. The committee still contended that "education must first be imparted to the upper and middle ranks, and then descend to the lower and more numerous class of the people." This idea was derisively called "the filtration theory."

The medical science of this country, previous to the introduction of European learning, was not only ridiculously scanty, but perniciously absurd. The old Hindú books contained medical treatises, which were esteemed to be of divine authority; and, of course, devout Hindús would not think of improving upon them. The Mohammedans had what they supposed to be the Greek system of medicine, but which was mainly mere quackery. It was clear that the East-India Company's government could obtain no native practitioners in the medical art without educating them in the European method. Therefore in 1833-'36, the government established the Calcutta Medical College. It was at first doubted whether any Hindú students could be found who would aid in, or even be present at, dissections, on account of caste; but the offer of stipends, ranging from \$3.50, \$4.50, to \$6 a month, brought in an abundance of them. In this college, the pupils learned that the passions and appetites of the human system were not caused by different little animals inhabiting different places in the interior of the body, as they had formerly been taught.

The old controversy relating to the medium of higher instruction, which had lasted twenty-five years, was closed, by a kind of compromise, in 1839. The governor-general published an order, the purport of which was, that "although English was to be retained as the medium of higher instruction in European literature, philosophy, and science, the existing Oriental institutions were to be kept up in full efficiency, and were to receive the same encouragement as might be given to the students at English institutions. Vernacular instruction was to be combined with English, full choice being allowed to the pupils to attend whichever tuition they might individually prefer. The central colleges were to be recruited by the ablest pupils from the central schools." The governor-general agreed with the committee in the notion that the government ought first to seek to educate the upper classes, though the mass of the people were not to be neglected indefinitely; "but," he added, "the hope of acting immediately and powerfully on the poor peasantry of India is certainly far from being strong with me."

In 1840 more money was appropriated for educational purposes, and the annual grant now amounted to nearly \$240,000. Of this sum \$175,000 was appropriated to the existing colleges and schools and to

the other charges of the department, and it was in contemplation to devote the remaining income to the establishment of a chair of civil-engineering, and another of law or natural philosophy in the Hindú College. By these means 6 colleges, containing 2,117 students, and 18 English schools with 2,434 students, were maintained, beside various vernacular schools in the lower provinces, in all of which were 2,077 pupils.

The committee of public instruction was abolished in 1842, and a council of education formed in its place, in order that the government might exercise more direct control over the whole business. From time to time the schools in the different provinces were successively transferred to the control of the local governments. Up to 1855 experiments of various kinds were made in the interest of vernacular education; but the want of good books, teachers, and superintendence resulted in almost complete failure.

Any further minute detail of the progress of government education would be out of place in a paper like this. Hitherto the time was employed in experiments and in learning what really ought to be and could be done.

The year 1854 is memorable for a dispatch from the court of directors, which effected a great change of policy. It is best to let this dispatch speak for itself, and accordingly so much of it is copied here as will give a general view of its provisions:

“We are desirous of extending far more widely the means of acquiring general European knowledge of a less high order, but of such a character as may be practically useful to the people of India in their different spheres of life. The wise abandonment of the early views with respect to native education, which erroneously pointed to the classical languages of the East as the media for imparting European knowledge, together with the small amount of pecuniary aid which in the then financial condition of India was at your command, has led, we think, to too exclusive a direction of the efforts of government toward providing the means of acquiring a very high degree of education for a small number of natives of India, drawn, for the most part, from what we shall here call the higher classes. We are far from underrating the importance or the success of the efforts which have been made in this direction, but the higher classes are able, and willing, in many cases, to bear a considerable part at least of the cost of their education, and it is abundantly evident that, in some parts of India, no artificial stimulus is any longer required in order to create a demand for such an education as is conveyed in the government Anglo-vernacular colleges. We have, by the establishment and support of these colleges, pointed out the manner in which a liberal education is to be obtained, and assisted them to a very considerable extent from the public funds. In addition to this, we are now prepared to give, by sanctioning the establishment of universities, full development to the highest course of education to

which the natives of India or any other country can aspire; and, besides, by the division of university degrees and distinctions into different branches, the exertions of highly-educated men will be directed to the studies which are necessary to success in the various active professions of life.

“Our attention should now be directed to a consideration, if possible still more important, and one which has been hitherto, we are bound to admit, too much neglected, namely, how useful and practical knowledge, suited to every station in life, may be best conveyed to the great mass of the people, who are utterly incapable of obtaining any education worthy of the name by their own unaided efforts, and we desire to see the active measures of government more especially directed, for the future, to this object, for the attainment of which we are ready to sanction a considerable increase of expenditure. Schools—whose object should not be to train highly a few youths, but to provide more opportunities than now exist for the acquisition of such an improved education as will make those who possess it more useful members of society in every condition of life—should exist in every district of India.”

A part of this dispatch, which provides for aiding missionary and other non-government schools, I cannot find, but as the rules for the grant-in-aid will be spoken of again, they may here be passed over.

Before the receipt of this dispatch the experiments that had been made, the scattered efforts of a few benevolent persons, and the influence of missionary schools to be spoken of hereafter, had resulted in the establishment of many schools of various grades. All, however, was but a commencement of the work of national education. That what was to be done, if possible, may be estimated, the following table is inserted. The absolute correctness of it cannot be guaranteed, but it is a near approximation to the truth.

Area and population of the provinces of British India.

Province.	Area in square miles.	Population.
Bengal.....	239, 591	40, 352, 960
Madras.....	141, 746	26, 539, 052
Bombay and Sind.....	142, 042	12, 889, 106
Northwestern provinces.....	83, 785	30, 086, 898
Punjab.....	102, 001	17, 596, 752
Central provinces.....	84, 162	7, 985, 411
Oude.....	24, 060	11, 230, 747
British Burmah.....	98, 281	2, 463, 484
The Berars.....	16, 960	2, 220, 074
Coorg.....	2, 400	112, 952
Total.....	935, 628	*151, 467, 436

* Nearly 162 inhabitants to the square mile.

These figures will be interesting to an American reader, as showing the extent of the British East-India empire. They are supposed to understate some of the provinces, especially Bengal, and they do not include those considerable portions of Hindustan and Burmah still belonging to native rulers.

All the above-mentioned provinces have lieutenant-governors or commissioners placed over them, subordinate to the governor-general. Since 1859 the administration of school-affairs has been committed to these local governments. There are unimportant differences of details among them, but the governing principle of all is the same. The general system of instruction and supervision, which has grown up under these authorities since 1859, is now to be sketched. We will begin with—

Village schools.—These in some degree correspond to the district-schools of America; that is, they are intended for the elementary instruction of all classes of boys. But little beyond reading, writing, and the elements of arithmetic is taught in them. I have before me the last published report of public instruction in the Northwestern provinces, giving much more complete information on this subject than I can at present gather from the other local governments; but it is safe to say that nearly the same average number of such schools will be found in those governments compared with the population, and that all have the same general character. It appears from this report that there were 3,335 of the lowest class of schools in the Northwestern provinces. There were on the rolls 119,384 pupils. The average daily attendance was 92,386; of these, 35 were studying English, and 14,052 were learning either Arabic, Persian, or Sanskrit—only 46 the last. The remainder learned the vernaculars only. The teachers of these schools are aided by the government, and their work is inspected, as far as it can be, by government-officers. The better teachers are rewarded by being promoted to a higher grade of schools.

There is also a higher class of village-schools, placed in the midst of circles of the lower, offering more advantages. Pupils who wish to remain under instruction, and to pass beyond the grade of the lower and more numerous schools, are promoted to these central schools. The report gives the number of these schools as 209; average daily attendance, 9,021; learning English, 389. In these schools arithmetic, geography, and grammar are taught.

If we compare these, the common-schools of the country, with the population, we have this result: There are 3,544 schools for a population of 30,086,898; giving one school for about 8,489 inhabitants. The average number of pupils in a school is a fraction less than 29—not comparing very well with American schools, in many of which are hundreds. This gives us substantially the educational advantages enjoyed by the mass of the people in government-schools; for the number attending higher schools is not sufficient to greatly influence the great body of the population. The people of the Northwestern provinces are, on

the whole, of a better class than those of the more southern provinces, and consequently the schools are of a somewhat higher character than the rural schools in other parts of this country. Therefore, if we take the educational work in these provinces as a specimen, our estimate of the whole will be sure not to err in the direction of depreciation.

Middle and higher schools.—Of these there are 23 in the Northwestern provinces. I have not the means of ascertaining the precise number in the other local governments, but am safe in saying that they are not in excess of these according to population. These 23 schools have an average daily attendance of 2,309 pupils. These schools are of a rather high order, giving a fair knowledge of English and the elements of science and the mathematics. All the pupils study English more or less; 400 Arabic; 637 Persian; and the vernaculars are extensively cultivated. All of this class of schools are in the cities and principal towns, corresponding to our county-towns, though representing a much larger area and a vast population.

Colleges.—In the Northwestern provinces there are three of these—at Agra, Barcily, and Benares. They have on their rolls 1,145 names; average daily attendance, 1,084. The best teachers that can be obtained—frequently graduates of the English and Scotch universities—are employed, and are well paid. Here pupils are qualified for university-examinations; not merely for the entrance-examination, but those that are required for all the degrees. The colleges very nearly compare with our best male academies, and are superior to some of our colleges.

It is worth while to notice the annual cost of these three institutions. The government, in the year covered by the last report, expended on the Agra college about \$26,391; on the college at Barcily about the same sum; and on that at Benares \$39,069. The three had an income, from endowments, subscriptions, fees, &c., of \$19,082. The average cost of educating each pupil for a year is nearly \$68.

In the other provinces, excluding Madras and Bombay, there are seven other colleges of much the same character as the three above mentioned. In the presidencies of Madras and Bombay are several more; but their exact number is not known to me. Their general character is the same.

Universities.—In each of the three great presidencies there is a university—at Calcutta, Madras, and Bombay. They are not institutions for giving instruction. The government-colleges, and all schools that submit to government-inspection, are affiliated with them, and may send up students for the entrance- and degree-examinations. The certificates and diplomas given to successful candidates are valuable, because the examinations are not shams, but real tests of learning; and because the government takes care to give employment to the graduates if they wish it. Of those who have hitherto gone up for examination, more have failed than have passed. The examinations for en-

trance include English, some second language, mathematics, logic, and physical science. For some of these there are alternative studies. Special schools of law, medicine, civil-engineering, &c., are connected with the universities, and their graduates receive appropriate degrees.

A new university-college is projected at Allahabad, the seat of government for the Northwestern provinces. Probably this new institution will become a fourth university.

It will occur to experienced educators in America that the plan of these universities is one worth studying. If our degrees and honorary distinctions were conferred by a senatus selected from the best professors in our best institutions, and not by every little concern that can get a charter of incorporation, they would be worth something; and the ambition to obtain them would prove a great stimulus to sustained and superior scholarship.

Affiliated colleges would be obliged to maintain a certain elevated standard; and those which would not affiliate themselves with the university would fall under just suspicion of mediocrity. But it is doubtful whether any such arrangement can be made without a dash of despotism in the civil government.

Special institutions.—Beside the old Medical College at Calcutta, which has already been mentioned, others have been founded at Madras, Bombay, and Lahour, in the Punjab. In some of these, two classes of pupils are taught—one in English, for first-class physicians and surgeons; the second in the vernacular, for subordinate positions in the medical service. The government-pupils in these schools are supported by stipends, and are bound to accept service under the government if required.

Law-classes are formed at the presidency-towns and at Allahabad.

In all India there are special schools for civil-engineering and similar work. They are interesting and important, furnishing much-needed assistants in many government-works, and introducing material improvements in all the mechanical arts.

There are also a few normal-schools—an entirely new thing in this country, the influence of which for good can scarcely be calculated; for school-teaching was formerly the only trade which it was thought unnecessary to learn. Any man who could read, even if so old and worn out that he could do nothing else, was thought fit to teach; but now the people are fast coming to inquire whether a man knows this business.

The most new of all things relating to education in this country is a normal-school for females. We are beginning to have these. But the mention of them is an anticipation of the subject of female education, of which I am to speak separately hereafter.

MISSIONARY AND PRIVATE INSTITUTIONS.

The missionaries in India early perceived the advantage to their own cause of offering instruction in true science to the natives. The matter presented itself to them as a duty that they owed to the ignorant, and also as the shortest and easiest way of showing to the Hindús the utter falsehood of their religious books; since the most monstrous fables were taught in them, in place of true natural science. As a specimen of what was taught by the Hindú books and teachers, we may cite what Bishop Heber witnessed in the Sanskrit College, at Benares, in 1824. The bishop was present at a lecture on astronomy. The lecturer produced a terrestrial globe, and identified Mount Meru with the north pole; while under the southern pole he declared the tortoise rested and supported the earth. He showed to the young students how the southern hemisphere was uninhabitable; how Padalon was placed in the middle of the globe; how the sun went round the earth once in every day, and how by an equally continuous motion he visited the signs of the zodiac. This monstrous doctrine was taught as divine revelation. To destroy the credit of the Hindú scientific books was equally to destroy that of their religious books. It was for this very purpose that the missionaries came and labored here.

The first missionary school of which I find any account was established in Chinsurah, not far from Calcutta, in 1814, by Mr. Robert May, a missionary. Some smaller schools were affiliated with it. These schools were conducted with such success that in 1816 the government granted \$300 a month to aid them, and afterward increased the grant to \$400. This was the first money granted in aid of a school not established by government.

About this time Carey, Marshman, and their associates in the Baptist mission at Serampore, began to prepare school-books, established twenty schools in the neighborhood of Calcutta, and gave a stimulus to the cause of education which has been continually operating to this day. It is impossible in any case to say what would have been done by one party without the influence of another. We cannot conjecture what the government would have done about public education had the missionaries done nothing; but it is generally believed in this country that it would have been very little. The government was in dreadful fear that the Hindús and Mohammedans would think the authorities not neutral on the subject of religion. There is some reason to believe that government-schools were at first established partly to convince the natives that there was no design to overthrow their religion; and that teaching like that of the astronomical lecture at Benares was permitted with the same design.

Every mission of any consequence in India has zealously entered upon the work of education. The great institution of the Free Church of Scotland, at Calcutta, under Dr. Duff; similar colleges in Madras and Bombay, and less known but not less influential institutions through-

out the country, have directly educated very many hundreds of young men, and have indirectly stimulated the government to greater efforts, beside having provoked the natives in some places to set up and endow schools, in order to have their children taught without the fear that they would be induced to embrace Christianity. The missionary institutions also aided materially to decide the old and fierce controversy between the Orientalists and the advocates of European learning. They took little part in the war of words, but they *acted*—taught science through the English and the vernaculars, and furnished examples of progress that compelled imitation. A pamphlet of Dr. Marshman, relative to vernacular education, in 1816, seems to have been the seed from which grew the celebrated dispatch of 1854, establishing the present governmental system; and whether or not the one suggested the other, the dates show how much sooner the missionaries arrived at sound views than the government. The first missionary college was founded at Serampore, in 1818; and all later have been but imitations and improvements of it. The Free-Church missionary, Dr. Wilson of Bombay, still living and laboring, has perhaps exercised greater influence on popular and high education than any other man; though if space and the object of this paper allowed it, many other names—several of them American—ought to be joined with those here distinguished.

It has been already said that the natives have set up and endowed schools. Among them that of Sir Jamsetjee Jeejeebhoy, at Bombay, ought to be specially mentioned. We visited and examined it in December, 1872. We found the head-master to be a Brahman from Gujerat. The pupils were all Parsees or fire-worshippers, and over 500 in number. We examined the first class, consisting of over twenty young men, in Milton's *Samson Agonistes*, and found them almost perfect in it. Beside this central school, Sir Jamsetjee's foundation supports 26 branch-schools in various places in the Bombay presidency. All these schools have above 2,000 pupils. Sir Jamsetjee and his lady gave about \$165,000 to found the Parsee Benevolent Institution, to which these schools belong; and others of the same community added some \$20,000 to the fund. The government of India is trustee for the fund, paying 6 per cent. interest on it.

At Agra, in the Northwestern provinces, some Hindús became angry at the persistent teaching of Christianity in the Church Missionary College, and set up one of their own. This sort of thing is often attempted—sometimes succeeding, and sometimes dying away after a smart but fitful effort.

Aided schools.—These belong to missionaries and other non-governmental agencies. Under certain conditions about half the monthly expenses of a school conducted by missionaries or private parties may be drawn from the government. It would be tedious, and is unnecessary, to give all the details of these conditions. They are similar in all the local governments, but not quite identical. In general they are—

1. That the schools shall be subject to government-inspection, in every respect, and be well conducted.

2. That if they wish to prepare students for university-examinations, they must use the books prescribed in the curriculum.

3. That certain accounts be properly kept, and reports made.

Several schools for European and Eurasian (mixed blood) children are aided, but they are very few in comparison with the native schools. It is impossible to state the number of schools of all grades that are aided in all India. A general estimate may be made of their number by stating what it is in the Northwestern provinces and by comparing the population; but even then some deduction should be made on account of the fact that these provinces are in advance of most other parts of India in schools and in most other things. It has been the happiness of these provinces, for the past twenty-five years, to have lieutenant-governors of great political knowledge and high moral and religious character, and to have them hold office for considerable periods. The number of missionary colleges aided in the Northwestern provinces is 3; native, 1. The number of aided schools of the highest rank below colleges is 12, almost all of which are missionary institutions. Aided schools of the middle classes are 75, of which 49 are under the direction of missionaries. There are also 63 Anglo-vernacular schools of a lower grade aided, but the reports do not distinguish their management as missionary or otherwise. Of a still lower class 37 are aided; and of these all seem to be under the care of missionaries.

Let it be noticed that all these schools are in the Northwestern provinces, and among about 30,000,000 of people; and that all of British India contains 151,000,000, among whom are similar aided schools, more or less.

Missionaries are divided in opinion as to the desirableness of government-aid, and several have rejected it. Many of the unaided schools are of a high character, and very many are merely elementary vernacular schools, taught for the sake of bringing Christian books and teaching to bear upon the mass of the people. I find it impossible to give the statistics of these unaided schools. Some missionaries say that the government-inspectors are troublesome, and attempt too much control, and that they report unfavorably of a school in which as much time is given to religious instruction as the missionary thinks it necessary to give. It may be believed that all this depends on the personal character and prepossessions of the inspector. Great objection is also made to the character of some of the books that are prescribed for university-examinations, as idolatrous, frivolous, and impure. So far as I can ascertain, this complaint against books is more just in regard to the Madras presidency than in other provinces. Extracts have been published from the school-books of that presidency that are exceedingly offensive—so much so that, if they were published in America, the vender would be criminally prosecuted. Although the government has always professed to

maintain religious neutrality in schools as well as in all other departments, yet the fact has often been noticed that books, in which the truth of Islamism or Hindúism is taken for granted have been freely used, while all mention of Christianity must be carefully avoided, so that the neutrality consisted in ignoring Christianity only. Government-officers have taken extreme pains to avoid giving offense to the natives, and have not seemed to care if they did this by actual unfairness to their own professed religion. Missionaries have objected to this—that it leads native boys to the inevitable conclusion that the Europeans do not really believe their own religion. In consequence of these objections, several important institutions have rejected the grant-in-aid. Probably they are wrong; and it would have been better to remain under government-patronage and complain vigorously of the evils connected with it. These evils are in the course of being removed.

In all the aided institutions of the Northwestern provinces 14,730 boys are enrolled.

FEMALE SCHOOLS.

All that has already been said relates exclusively to the education of boys and young men. Until recently, scarcely one respectable woman in ten thousand learned to read or write, to use any musical instrument, to draw, or practice any of the accomplishments that grace the ladies of Christian countries. Some of the bad women of the cities, having no restraints and much curiosity, learned something, and occasionally one acquired nearly all the knowledge that was accessible. I once knew of one who very much reminded me of what we read about Aspasia, and a few others of the olden time. But other women were kept in ignorance—the poor by their poverty, and the more rich by the jealous fears of their husbands. Twenty years ago all Hindustani men thought and said that if a woman could read and write, she would be sure to have illicit correspondence with some one. All the people also held that it would be a shame for a respectable girl or woman to learn literature or accomplishments, because the bad women cultivated them. Ignorance was thus esteemed to be the safeguard of both rank and chastity. There was also another objection to teaching women to read, which had much more appearance of reason in it—existing books of native literature were too corrupt to be put into their hands. The books of any country, where the women do not read, and where the two sexes are expected never to meet and speak of what is written and read, are always full of moral filth. Most people in Christian lands never think how much they owe to the fact that our authors always write with the consciousness that women are readers. Of course, teaching the women to read here would tend to the cure of this evil; but the step from one state of things to the other was fearful. A very great change is now inaugurated. It will be well to look back to its beginnings.

The government did nothing relating to female education previous to

1850, though charitable societies had done something. In 1821 Miss Cooke (afterward Mrs. Wilson) was sent out by the British and Foreign School-Society to teach female children in Calcutta. In 1826 she had 30 schools with 600 pupils. They were then gathered into a central school under the care of the Ladies' Society for Native Female Education. Various missionary efforts were made from time to time, with some effect, though it has been everywhere a terrible task to overcome the prejudices and inertia of the people. In 1849 orders were issued to the council of education to include female schools in their plans, since which time, by patient effort, the native mind has become so far enlightened that it is possible to have female schools almost anywhere. The persistent efforts of missionaries and other benevolent persons overcame the fears that were entertained by the government in regard to the prejudices of the natives on this subject.

For a long time girls could not be induced to attend schools without being paid for it. Those of the higher classes would not attend for any consideration, and the poorer said they must keep their girls at home to earn something, unless they could be paid for going to school. Therefore missionaries and others gave each pupil a small copper coin daily. The first female school with which I had personal acquaintance kept suits of clothes for the girls, who came with their dirty home-dress, sometimes with nearly no dress, and put on the school-dress, which they wore during school-hours, when they resumed their own clothes. More than one pupil ran away home with the school-clothes, and never came again. Even now it is very difficult to secure attendance. The practice of paying the girls has been discontinued, but the teachers often, for the sake of keeping their places by securing a certain number of pupils, give the poorer girls something. This happens in both government and missionary schools. The government-schools are more easily kept up than others, for two reasons—the people are not afraid that the girls will be made Christians, because the government teachers and books are all positively heathen, or quite destitute of all religion, and the government-officers can exercise an influence over the landholders that missionaries cannot. The people can be made to hope that their taxes will be lighter if they please the authorities. In some parts of the country resort is had to a curious compliance with an old custom to secure the attendance of the daughters of people of some pretension to gentility. In the houses of such people the women are placed behind a curtain when male visitors are received. Even the physician is asked to feel the pulse in a wrist protruded from under the curtain. In the school such a curtain is used to screen the high-class girls from the male teacher or inspector.

From the reports before me I find that there are in all India about 1,000 girls' schools supported by the government. How many missionary schools there may be I have no means of learning, but probably in all 500. Government-reports do not give a high idea of the qualifica-

tions, faithfulness, and honesty of the Hindú teachers, nor of the attendance and progress of the pupils. Some inspectors say that many teachers gather a lot of girls for the day of inspection who never attend at any other time; and if the inspector's visit is unexpected, and very few girls are found, the teacher always has ingenious excuses—there is a wedding, or a dinner, &c.

But with all the difficulties and discouragements in view, we may say this is a beginning! In such a country as India we must make up our minds to try all plans, to keep trying, and to wait. We are making progress. Single instances of distinguished success encourage us. In the neighborhood of Calcutta, where European instruction has longest been offered, the difficulties are nearly at an end.

Zenana-work.—The apartments for the women in native houses are called the *zenana*. Hence the efforts that are made to instruct married women are called the *zenana-work*. In and near Calcutta some of the richer Hindús hire female teachers to come to their houses and instruct their women. This is not an extensive work, but promising. Missionary ladies all over India are taking up this work, carrying human learning and the Gospel to the secluded women. Some ladies have been sent from England and America for this special purpose, and are having encouraging success, gaining admittance continually to new families. Some of these ladies are regularly-educated physicians. Female missionaries will hereafter have their hands full of work as directly important as that of their husbands.

SUPERINTENDENCE.

Each province has a director of public instruction, inspectors of circles or divisions, and sub-inspectors. These visit all schools and report. A report is made annually by each director to the chief civil officer of the government under which he acts. It is worthy of notice that one inspector of female schools is a Christian woman.

The directors are gentlemen of high qualifications and well paid. Their remarks, and those of the inspectors, are very free and personal. There does not seem to be any desire to make a good report when it is not deserved, and the semi-despotic system under which we live here is highly favorable to honesty in this respect. An inspector is not dependent on the votes of teachers and their friends for his continuance in office.

WAYS AND MEANS.

Many of the government colleges and schools have endowments for professorships and scholarships, which aid in their support. Rich natives, "for the sake of a name," as they themselves say, have given considerable sums of money for this purpose. Testimonials, in the way of monuments in memory of distinguished men, have been used to found schools, professorships, and scholarships. It is worth asking, if

this would not be a good way to perpetuate the memory of great men in America, instead of building useless columns of masonry ?

The government gives direct contributions from its general treasury to its own schools, and to aid private schools that permit government-inspection.

There is also a tax levied upon land and in municipalities, which furnishes a large part of the expense of the schools.

It is doubtful if the government can afford to do much more than it is now doing. If education is to reach the whole mass of the people, means must be provided, the sources of which are not now visible. The income of all schools from the government may be stated to be, nearly—

Imperial grant.....	\$3, 285, 500
Local land-taxes.....	786, 500
Municipal taxes.....	55, 500
Total.....	<u>\$4, 127, 500</u>

Compare this with the population of all the provinces of British India and Burmah, and we find it is a sum pitifully small. The population is, in round numbers, 151,000,000 ; and this sum divided among that number of people gives one dollar annually to educate about thirty-six persons.

REMARKS.

It is far from my intention, in any of the statements made in this review, to censure the government-officials in this country. With the means at their command, and the people so sunken in poverty and inertness, and so contented with their ignorance, no officer can do more. We must wait till the influence of the education now being given shall bring the great mass of the people up to just notions of the value of knowledge. Where schools already exist, both government and missionary, in many cases double the present number of pupils might be taught with a very slight increase of expense ; but the people do not care to send their children. At the same time it is evident that the desire to be educated is spreading among the people. At present education is valued according to the wages it will enable a person to earn ; but we may hope that gradually higher and more noble views of it may prevail.

The writer of this paper is a missionary ; and some persons may suspect that he has overstated the influence and importance of missionary institutions. To avoid this danger he has said less than he believes to be just. But he may here introduce the testimony of Sir C. Trevelyan, formerly employed as a civilian in this country and since in important posts in the government of England. He says : "The missionaries, even in their secular capacity, form a most important element in the enlightenment and improvement of India, especially in the assistance they

give to the formation of a vernacular literature. They have happily discovered the importance, in the formation of the minds of the natives of India, of the vernacular languages and literature, and they are directing great attention to them. They are cultivating them and laying the foundations of a very valuable literature, which will be of a highly pure and very valuable kind, quite independently of its religious usefulness." When a Presbyterian missionary once thanked the late Mr. Thomason, then lieutenant-governor of the Northwestern provinces, for a donation of \$500 to aid a missionary school, his honor said: "Do not speak of it as if you were under obligation. You are a coadjutor of the government and the agent of men who wish that done which they themselves cannot do. It belongs to us, for whom you work, to thank you." Testimonies to the usefulness of missionary institutions might be multiplied to any extent were this the place for them.

On the subject of school-books much might be said for which we have no space. The character of some of the books used in public schools has been alluded to already. They are stories and poems by native authors, and immensely popular among the natives. They are good in regard to grammar and idiomatic turns of expression. Their descriptions are highly artistic. For all these reasons the conductors of schools have allowed them to be used; but perhaps the greatest of all reasons is, that formerly there were absolutely no books that had the merits of these and were free from their abominations. This has all along been a matter of serious concern to conscientious government-officers, missionaries, and other decent persons, who had anything to do with schools.

There was also an entire want of text-books for nearly all branches of European science. Even for pupils learning English it was necessary to adapt the class-books to the country.

To supply this want various plans were tried. At first the committee of public instruction, in their zeal for Orientalism, offered to pay for translations of European scientific books into Arabic and Sanskrit! Gentlemen connected with the government-service tried their hands in preparing books. In some instances the government has paid for work of this kind. It has also established depots, at which it has kept for sale imported books, translations, and critically-prepared editions of native works. But the tinges of heathenism and heathenish immorality still remained. Missionaries and others, regretting the want and its miserable supply, began to prepare books; but it soon became manifest that some combination was necessary in order to secure system, and to make an accessible market for the books. Therefore school-book societies were formed in Calcutta, Madras, and Bombay, which have done very much to remedy the old evils.

It ought to be known that English residents in India have done a great deal in connection with these school-book societies, and in many other ways, to promote the proper education of the people. While some Europeans seem to become half heathen in this country, others feel

keenly the evils by which they are surrounded, and try in every way to improve the moral condition of the people. In speaking of the agencies that have combined to produce present results, the influence of these persons ought not to be forgotten, though it cannot be reduced to the form of statistics. Among other things that they have done, we may mention the organization of several associations something like American village-lyceums, in which educated natives have been induced to take a part. In these associations literary, historical, political, and social questions are discussed. Some of these societies are short-lived, ceasing to exist almost as soon as the leading man is removed from the station; others have vitality enough to remain a long time. Old Hindú customs often get handled roughly in these discussions; and the doings of the government are often criticised in such a way as to influence the action of the public men of the land.

On the subject of caste, as affecting the schools, no better place could be found for a remark than this. For a long time the government itself thought that the low castes need not be educated, and even so lately as 1871 a commissioner says that it would do no good to put into the heads of the low people notions, by teaching them to read, that would make them discontented with their present condition, from which they cannot emerge. All the upper classes of the people cordially approved of this policy. It agreed with their prejudices. When low-caste boys began to enter the schools, the others declared they would not submit to the degradation of being associated with them; said they could not sit in the same class without religious pollution; and many left the schools. In many cases they carried their point, and had the low boys excluded. Missionaries and a few teachers resisted this injustice, allowed malcontents to leave, and finally gained a great victory. Now all castes who wish to do so are free to attend the schools, and to gain all the advantages offered by education.

We may believe that in America the bearing of education on Christianity in this country will be a matter of great interest. A community of indigenous Christians is growing up. It consists of two parts: 1. The descendants of Europeans and natives. 2. The native Christians. Those who have European blood are often called Eurasians. This class continually tends to become white, because the members of it often marry Europeans, and very seldom persons of purely native blood. As a rule, however, they, as well as the native Christians, have no country but this. Here are all their relations, interests, and affections. They certainly will eventually exert great influence on the character and destiny of this land. This is perceived by the government, by missionaries, and by all benevolent persons. Roman Catholics and Protestants have set up schools to educate these classes of people. The government aids both alike. It would be out of place here to discuss the different characters of these schools; and it is sufficient to remark that they are

conducted much in the way that Catholics and Protestants conduct boarding-schools in America.

It is well, however, to mention one school that has attracted more attention than would seem likely to be bestowed on an institution of so unpretending a character. It is at Dehra, at the foot of the Himalaya Mountains. The climate of that place is better adapted for developing strength of character than that of the plains. The school is a boarding-school for native Christian girls, and will receive Eurasian pupils if they wish to attend. It is conducted on the principle of the Mount Holyoke Seminary. Would not the late Miss Lyon have rejoiced if she had been able to anticipate that her plans and efforts would have borne such fruit at such a distance? All the girls are taught to read and write their own language well; but the great peculiarity of the school is, that English is spoken in it exclusively, and the pupils learn it as English and American children learn it in their own families. Instruction is given in English. The pupils are carried through a course of education that may well be called high.

Objection has often been made to this school: "You are teaching these girls far above their rank in life—above any position they can ever hope to occupy." The answer given by the Rev. Mr. Heron, superintendent, is: "It is our duty to educate the minds that are given to us according to the capacity with which God has endowed them, and not to usurp the place of Providence in assigning them the position they are to occupy in future life." What an effect would be produced upon mankind if the doctrine here enunciated could become an universal maxim: "*Every* mind ought to be educated to the full extent of its powers." To illustrate his position, Mr. Heron quotes a letter from one of the late pupils of the school, whom "society" would certainly have pronounced educated above her sphere. The letter is written in perfectly good English, announcing her appointment by government to go to England to qualify herself for a female physician, under covenant to return and serve the government in charge of a female hospital and college for training young women as midwives and nurses.

The last catalogue of this school contains the names of 104 pupils, and of five teachers, the latter American young ladies.

Let the Eurasian and native Christian women be educated according to the plan of this school, and they will so raise the character of the classes to which they belong that no influence nor power will be able to hinder these classes from leading the thought and forming the character of the country.

CIRCULARS OF INFORMATION

OF THE

BUREAU OF EDUCATION.

No. 3—1873.

ACCOUNT OF COLLEGE-COMMENCEMENTS FOR THE SUMMER OF 1873, IN
MAINE, NEW HAMPSHIRE, VERMONT, MASSACHUSETTS,
RHODE ISLAND, CONNECTICUT, NEW YORK,
NEW JERSEY, AND PENNSYLVANIA.

WASHINGTON:
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1873.



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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,

Washington, D. C., August, 1873.

SIR: A very large amount of material is every year published respecting college-commencements, which is lost to educators from the way in which it is put before the public. A still larger and more valuable amount of information on this subject might easily be collected, if pains were taken to inquire about it, and to offer an opportunity for publication in a permanent form.

The accompanying pages, prepared by direction of the Commissioner, and revised by him, are the partial result of such inquiry, and are respectfully recommended for publication as a Circular of Information.

I am, sir, very respectfully, your obedient servant,

CHAS. WARREN,
Acting Commissioner.

Hon. COLUMBUS DELANO,
Secretary of the Interior.

Approved and printing ordered.

B. R. COWEN,
Acting Secretary of the Interior.

MAINE.

BOWDOIN COLLEGE, BRUNSWICK.

The annual commencement of this oldest of Maine colleges, the *alma mater* of Hawthorne and Longfellow, of one President of the United States, and of at least eight presidents of colleges, was held on Wednesday, July 9.

The degrees conferred in course were, A. B., 40; A. M., 17; M. D., 14. No honorary degrees were granted.

CHANGES.

The changes for the year have been an almost entire renewal of the faculty, a creation of two new professorships of physiology and natural history, and an enlargement and systematizing of the post-graduate course. This course embraces four departments, of letters, science, philosophy, and medicine, and the prosecution of the studies of any one of these for *two* years at the college, after graduation, entitles the student to the degree of A. M., Sc. D., Ph. D., or M. D., according to the course pursued. Other graduates of the academical department receive the degree of A. M. in course only on the presentation of evidence that they have for *three* years pursued liberal or professional studies in some regular way, or on their sustaining, at the end of that time, an examination in the advanced studies of the School of Letters.

The demand for what is deemed by some a more practical course of instruction than that usually afforded in our colleges has induced the trustees and overseers to provide also for a scientific course of study, to run parallel with the classical course, securing to those who prosecute it for four years the degree of Sc. B., or C. E.

FELLOWSHIPS.

Graduates who have completed with honor any one of the series of studies in the post-graduate course, may be appointed *Fellows*, to reside at college, with all the privileges of the same, one or two years further, *without charge*, enjoying facilities for studies still more advanced, and opportunities for teaching in the line of their specialties.

BENEFACTIONS.

Gifts of money received since last commencement, \$10,000. No report of the object or objects for which this amount has been donated.

LIBRARY.

The increase of the library for the year past has been, from purchase, 500 vols.; from gifts, 250 vols., besides 100 pamphlets.

MUSEUMS.

The additions to the museums in the year are reported to be "too many to be specified."

NEW BUILDING.

By the munificence of Hon. Peleg W. Chandler, of Boston, the upper portion of Massachusetts Hall is in process of renovation, with a view to its use for a museum of natural history, in memory of the late Professor Parker Cleaveland. It is to be named the "Cleaveland Cabinet of Natural History," and to cost \$12,000.

PUBLICATIONS.

Manual of Civil Engineering, by Professor G. L. Vose, 2 vols. 8°. (Lee & Shepard.)

Sermons, by Professor E. C. Cummings, 1 vol. 8°.

Memoir of Professor T. C. Upham, by Professor A. S. Packard, pamphlet. 8°.

Triennial catalogue, and two annual catalogues.

PHYSICAL EDUCATION.

In order to promote a symmetrical and manly education, much attention is now given to physical culture. The exercises are based upon physiological and hygienic principles, and are directed, not with a view to make professional experts, but to make the development of the bodily powers tend at the same time to the discipline of the mind.

It is the intention, in order to secure proper and sufficient physical exercise, to alternate between gymnastic and military exercises. At present the requirements are the gymnastic drill from the latter part of October to the end of the second term, and the military drill from the beginning of the summer-term to the middle or latter part of October.

BATES COLLEGE, LEWISTON.

PRELIMINARY.

The exercises of anniversary-week at Bates College, the youngest college in New England, opened with the baccalaureate-sermon by President Cheney, at the Main Street Free Baptist Church, on Sunday, June 22. The theme of the discourse was "The Blade-Life of the College, and what it promises." On the subject of the higher education of women the speaker said: "It had been but recently that girls were

allowed equal advantages with boys in our public schools. Woman had been admitted into high-schools, academies, and seminaries; but why should her education stop with these places of learning? Could any candid person say why she should not be allowed the privileges of a college? Who could desire to stand at the college-door to pass in young men without brains or character, as was sometimes the case, and keep out young women, who had talent, scholarship, social standing, moral worth, and a conscientious feeling to recommend them? This problem had remained unsolved in New England until the year 1865, when Bates, though at the expense of ridicule, threw open her doors to the education of men and women equally."

NEW CHARTER.

At the meeting of the board of trustees on Tuesday the new charter of the college was unanimously accepted, and the board of fellows organized.

ADDITIONAL INSTRUCTORS.

Mr. Clarence A. Beckford and Mr. Frank W. Cobb were chosen to be tutors in the college.

COMMENCEMENT-DAY—CONFERRING OF DEGREES.

The exercises of commencement-day were held Wednesday, June 25, in the Baptist Church. The degree of A. B. was conferred on eighteen members of the graduating class, one of the number being a lady. The degree of A. M. was conferred on six former graduates.

HONORARY DEGREES.

The honorary degree of LL. D. was conferred upon Hon. Asa Redington, of Lewiston; that of D. D. upon Professor Ransom Dunn, of Hillsdale College, Michigan; that of A. M. upon Hon. Benj. E. Bates, of Boston; and that of Ph. D. upon Professor A. B. Meservey, of New Hampton, New Hampshire.

COMMENCEMENT-DINNER—GIFTS TO THE COLLEGE.

At the commencement-dinner on Thursday, the 26th, after a very satisfactory financial statement by the president, Mr. Benj. Edward Bates, of Boston, pledged \$100,000 for an endowment-fund, provided an equal sum should be raised by the friends of the college. Mr. Wood, of Boston, thereupon added a pledge of \$50,000; the Baptist Educational Society pledged \$25,000; Hon. Mr. Frye, M. C., pledged \$500; Mrs. E. W. Page offered \$1,000 on condition that the 100 ladies present would make it \$5,000; several ministers pledged \$100 each; Mr. Wood, of Boston, the same who had pledged \$50,000, pledged \$5 for each of the 100 ladies present. The friends of the college feel assured that the fund will soon be increased to three hundred thousand dollars.

PUBLICATIONS.

The Bates Student; a monthly magazine published by the students.

COLBY UNIVERSITY, WATERVILLE.

At the commencement, July 24, the fifty-second anniversary of the foundation of this institution, 10 young gentlemen received the degree of A. B. in course; 3 that of A. M. in course.

HONORARY DEGREES

were bestowed at the same time, thus: A. M. on Rev. C. M. Herring, Houlton, Maine; Rev. A. S. Ladd, Biddeford, Maine; and P. S. Warren, Methuen, Massachusetts—3. D. D. on Rev. Wm. Tilly, of Sidney, Maine; Rev. Nath. Butler, of Leavenworth, Kansas; and Rev. W. H. Alden, of Portsmouth, New Hampshire—3. LL. D. on Rev. J. T. Champlin, D. D., the retiring president; and on A. P. Stone, esq., superintendent of schools in Springfield, Massachusetts—2.

CHANGES IN THE FACULTY.

Dr. J. T. Champlin, after many years of service, retires from the presidency of the university, and is succeeded by Rev. Henry E. Robins, D. D. Prof. C. E. Hamlin, who for twenty years has occupied the chair of chemistry and natural history, has resigned to take a position in Prof. Agassiz's museum of natural history at Cambridge, Massachusetts, Prof. Wm. Elder, formerly of Acadia College, Nova Scotia, succeeding him at Colby; while Mr. J. D. Taylor, who has served for five years as Latin tutor, has been appointed professor of the Latin language and literature.

SCHOLARSHIP-FUND.

The fund for aiding worthy students in the prosecution of their studies at the university amounts now to \$51,282. No increase for the year reported.

LIBRARY.

The library, now amounting to 10,000 volumes, has received in money for the year \$500.

NEW BUILDING.

A cabinet and laboratory, costing \$27,000.

NOTABLE WORDS.

At the dinner which followed the commencement-exercises, Governor Perham responded to the call of the president in a pleasant address.

Speeches from several other gentlemen followed, among which it was gratifying to hear from Hon. J. H. Drummond, late attorney-general of the State, and Hon. J. G. Blaine, Speaker of the United States House of Representatives, most emphatic commendation of the old system of thorough training as heretofore maintained at this college, in opposition to the "elective" systems, now becoming popular in our collegiate institutions.

NEW HAMPSHIRE.

DARTMOUTH COLLEGE, HANOVER.

The baccalaureates-ermon of President Smith, which opened the exercises of commencement-week, dealt with the great theme of "Prayer as a Power"—a power alike with God and man; a power for good over one's self, and through God's blessing over all around, bringing Heaven's strength to aid the weak, and Heaven's comfort to sustain the suffering, and Heaven's grace to purify the sinful, and Heaven's healing to raise up the sick. Of course, in this connection, Professor Tyndall's proposition was referred to, not in the denunciatory terms some have adopted, but with expressions of "something akin to reverence" for one that has penetrated the deep mysteries of nature, from glacier-heights to central fires, and shed the light of genius over the broad field of science. Respecting such a man—no atheist, no infidel, but a reverent student of God's ways of working—Christian charity should utter no words of scorn. His proposition was to be regarded simply as a pardonable error of a scientific man looking too much for visible and tangible evidence of an answer to petitions which might return into the bosom of the offerer, and might bring thousands of spiritual answers invisible to human eye.

THE OKATION BEFORE THE SOCIETIES.

This exercise, from a new and rising man, had been looked forward to as one of the chief points of interest in the week. On Wednesday afternoon, in consequence, the church in which it was to be delivered was densely filled. After prayer by Dr. Davis, and music by the Mendelssohn Quintette Club, the president introduced to the assembly White-law Reid, esq., of the New York Tribune, who spoke for an hour and a half in his easy, conversational style. He welcomed the opportunity for presenting a question of vital importance to this assembly of scholars, and to the country they ought to serve. It seemed the fit occasion for saying something of the duty of the American scholar to be a politician, and of his duty as a politician. "The topic has not, indeed, been always thought grateful to academic ears; certainly it has not been the custom to devote these hours of literary festival to affairs seemingly most remote from literature; to invite the scholar into the ward-meeting, or the caucus, instead of Parnassus; to urge him to the study of congressional reports and the work and cards of candidates as the business of his life. Very different objects of thought and of aspiration have, on these high-days of the college-year, been more commonly pressed. To make worthy contributions to science, to leave your language the richer

by something which the scholars of a later time would not let die—that has been the more frequent appeal. The scholar has been assumed to dwell apart, and consecrate himself to higher than every-day affairs. He was to do noble thinking; he was to rule in the realm of ideas; he was to adorn the learned professions. But I am emboldened to a more practical discussion by an address delivered before those very societies by an American scholar and thinker, who, while yet flourishing among us in his green and honored old age, has been translated, before his time, but not before his desert, to our American Walhalla. Said Mr. Ralph Waldo Emerson, before the united literary societies of Dartmouth College, in 1838: ‘The scholar may lose himself in schools, in words, and become a pedant; but when he comprehends his duties, he, above all men, is a realist, and converses with things. For the scholar is the student of the world; and of what worth the world is, and with what emphasis it accosts the good of man, such is the worth, such the call of the scholar.’ Fortified by that high teaching, there may be the less hesitation in asking you to leave scholastic themes for the hour, and pass to the broader plane of public affairs.”

After urging the importance of political pursuits, and the special duty of scholars to assume a leadership in them, the speaker dwelt upon the fact that this was no longer the era of sentimental politics, but of practical problems, some of which seemed likely to form the nuclei for new parties in the near future. He asked: “How are you going to stop official stealing? I do not wish to enter into particulars, since it might touch untenderly, and on all sides, partisan sores; but the general fact everybody knows. Corruption and theft have been rampant in all the great cities, with the police as their tools for controlling elections, and the judges (in New York and Philadelphia at least) as their tools for wresting the law to their purpose. It is not an affair of one party. Every party under heaven that has had a chance has taken its share in the plunder. How are you going to control your corporations? They have spread over the land with a growth like that of Jonah’s gourd, but with a texture that no hot sun yet seen can wither. Creatures of the State, they control and command the legislature of the State. Servants of the people, they are making themselves the masters. Already the western masses are in revolt, and they promise, in their rage, to go to extremes quite as unwarranted as their antagonists have dared, and far more violent. Shall we cripple the corporations by invidious legislation, thus retarding the development of the country, or shall the Government go into the railroad business on its own account, as young Charles Francis Adams has proposed? How shall the rights of the people be protected without impairing their interests? How shall the power of the corporation be diminished without destroying its usefulness? It is but another phase of the same great problem that is already pressing at the East. What shall be the relations between the men with labor, skilled or unskilled, to sell, and the men with money to

buy it? What relations exist now, you know. They are merely those of armed observation and truce. Every month or two the truce is broken somewhere, with varying fortune for the contestants, but generally with wasteful cost, and no substantial profit to either. Very rarely do we yet see on either side of the water an application of that beneficent principle which Horace Greeley endured infinite abuse for first introducing to the American attention—the one vital tenet of the philosophy of the half-crazy, half-inspired François Marie Charles Fourier—the doctrine of co-operation among laborers, who thus become their own capitalists.” Mr. Reid also spoke at some length on suffrage. A discussion of the other functions of the more highly educated classes in our modern politics, and a reference to the illustrious son of Dartmouth who had so well illustrated them in the Treasury and as Chief Justice, closed the address.

Some other aspects of this address, which was delivered also at Amherst, may be seen in the notice of the commencement there.

COMMENCEMENT-DAY.

At ten o'clock the undergraduates, the graduating class, the president in his official robes, the faculty, the trustees, and the alumni, marched in order through the campus to the college-church, where, after prayer by the president and addresses by fifteen members of the class, including one poem, the following degrees were conferred :

IN COURSE.

A. B., 72; A. M., 17; M. D., 21; C. E., 2;* Sc. B., 13; (in agricultural course, 4.)

HONORARY.

A. M.: Professor O. P. Hubbard, of New Haven, Connecticut; Professor Arthur S. Hardy, of Dartmouth; General John C. Palfrey, of Lowell, Massachusetts; Professor Peter S. Michie, of West Point, New York; Hon. H. W. Blair, of Plymouth, New Hampshire; Whitelaw Reid, esq., of New York, and Edmund C. Stedman, of the same city; Geo. L. Andrews and Jos. R. Parkman, (residence not given)—9. D. D.: Rev. Allen Hazen, of India, and Professor J. J. Blaisdell, of Beloit College—2. LL. D.: Hon. Geo. F. Shepley, of Portland, Maine; Hon. Chas. Doe, of Rollinswood, New Hampshire; and Richard B. Kimball, esq., of New York—3.

At the commencement-dinner President Smith said that the institution, now a hundred and four years old, is yet in the flower of her usefulness. He could take those who had not appeared in the exercises of the day and furnish another commencement next week, that he would not be ashamed to have represent the college. He had previously paid the class the high compliment of telling them that if a better had ever graduated from the institution he did not know it.

* On graduates of Thayer School.

NEW PROFESSORS APPOINTED.

1. Benjamin T. Blanpied, appointed assistant professor of chemistry in the New Hampshire College of Agriculture and the Mechanic Arts.
2. Edward S. Dunster, M. D., appointed professor of obstetrics in the medical department.

BENEFACTIONS.

From legacy, \$1,695.41 out of the estate of the late Aaron Lawrence, esq., of Amherst, New Hampshire, in addition to two previous payments.

From gifts, about \$5,000 added to a preceding gift by E. W. Stoughton, esq., of New York, for the medical department, and \$7,000 from the State of New Hampshire for the College of Agriculture and the Mechanic Arts.

At the alumni-dinner on commencement-day President Smith announced also the completion, by Mr. J. Conant, of Jaffrey, of his noble donation of \$60,000 for the erection of another agricultural hall, which is now in process of erection. He further spoke of a legacy of \$10,000 to come to the college from the estate of the late Mr. Kingman, of Barrington, and of another \$10,000 from the estate of the late Chief Justice Chase. These will probably come into the treasury during the next year.

SCHOLARSHIPS.

Since last commencement there have been two new scholarships of \$60 per annum founded, by the gift of \$1,000 each, from Thaddeus Fairbanks, esq., of Saint Johnsbury, Vermont, and Rev. William T. Savage, D. D., of Franklin, New Hampshire.

About \$9,000 are annually appropriated in the form of scholarships. This sum is derived : (1) from the income of certain lands granted long ago by the State of New Hampshire ; (2) from a fund which was contributed by various persons many years ago in aid of students preparing for the ministry ; (3) from permanent and temporary scholarships provided by individuals or associations ; (4) from other moneys put into the hands of the president for benevolent purposes.

LIBRARIES.

The several libraries of the college and its societies now amount to 46,000 volumes, and are annually increased by appropriations and donations. The increase of the college-library for the past year has been, from purchase, 650 volumes ; from gifts, 450 ; with 100 pamphlets.

MUSEUMS.

For the agricultural department a State museum of general and applied science has been commenced, and several hundred specimens purchased in Europe. One-half of the specimens accruing from the State

geological survey, now in progress, have been devoted by the legislature to this department.

The additions to the college-museums, as reported by Professor Hitchcock, are the following :

SPECIMENS.

1. One thousand species of New Hampshire insects, labeled and collected by C. P. Whitney, of Milford, New Hampshire.

2. Large models from H. A. Ward, Rochester, New York. Megatherium, Plesiosaurus, Elephas-Colossochelys, Glyptodon, and Dinotherrium. Raised map of South of France; raised map of Mont Blanc region, Switzerland. Models of Welcome gold nugget and of platinum ore.

3. About 3,000 geological specimens placed on deposit by Professor Hitchcock.

WORKS OF ART.

Portrait of E. R. Peaslee, M. D., New York; also of Sampson Occun, through Benjamin F. Prescott, and of John Conant, esq., from himself.

IN MONEY.

Two hundred and fifty dollars from Professor Henry Fairbanks, of Saint Johnsbury, Vermont, used in payment for the collection of insects.

One thousand dollars from college funds and friends in payment for the casts and models from H. A. Ward. Some of their names are the following :

E. R. Peaslee, of New York, \$100; J. P. Cake, of Boston, \$100; Horace Hatch, of New York, \$50; J. E. Parsons, of New York, \$50; J. S. Washburn, of New York, \$50; Joseph Seligman, of New York, \$25; College-funds, \$500.

The specimens deposited by Professor Hitchcock are valued at \$1,500.

NEW BUILDINGS.

A new hall for the Alpha-Delta-Phi Society was dedicated June 25. The new Conant Hall for the agricultural department not yet completed.

PUBLICATIONS.

Catalogue for 1872-'73. Triennial catalogue.

VERMONT.

UNIVERSITY OF VERMONT, AND STATE AGRICULTURAL COLLEGE, BURLINGTON.

PRELIMINARY.

The baccalaureate-sermon was preached on Sunday, July 6, by President Beekham.

COMMENCEMENT-DAY.—DEGREES.

The exercises of the graduating class occurred on Wednesday, July 9. After the usual speaking by the young gentlemen, the president conferred the degree of A. B. on twelve members of the graduating class.

HONORARY DEGREES.

Contrary to the custom which has widely prevailed in our colleges, the university this year conferred no honorary degrees.

NEW ART-GALLERY.

Through the munificence of Hon. T. W. Park, of Bennington, an art-gallery will soon be added to the university. Measures have already been taken to prepare a suitable building for the purpose. Several gentlemen of means and influence, together with eminent artists, have promised to form the nucleus by the gift of valuable works of art.

THE LIBRARY.

The library now contains about 15,000 volumes, selected with special reference to the several departments of study.

MUSEUM.

The museum has been recently re-arranged, and important additions have been made by donation and exchange. Including the private collections of the professors, it contains about 52,000 specimens in the various departments of natural history.

REVISED COURSES OF INSTRUCTION.

The variety in its courses of study enables the university to meet the needs of all classes of students. The classical course, time-honored, and never to be superseded as an instrument of liberal culture, retains its due prominence. The agricultural-college fund is devoted to the maintenance of scientific courses, branching after the first year into the

departments of civil engineering, mining engineering, and agricultural and general chemistry. Besides these courses, a literary-scientific course has been recently established, embracing Latin and the modern languages, and various branches of science, physical, political, mental, and moral. Persons not candidates for a degree may pursue select courses for any length of time.

Special prominence is given to literary and English studies, to composition and public speaking, in connection with the scientific departments. The university has also a flourishing medical department.

CO-EDUCATION.

The institution offers its facilities for instruction to persons of both sexes. During the past year eight young women have been in attendance. The sentiment of the community is in favor of giving this experiment a fair and courteous trial. The young men have conducted themselves with entire propriety toward their new associates.

MIDDLEBURY COLLEGE, MIDDLEBURY.

PRELIMINARY.

The commencement-exercises of Middlebury College began on Sunday, July 13, with the baccalaureate-sermon, preached by President Kitchel, in the Congregational Church.

ALUMNI-MEETING.

At the alumni-meeting the committee appointed to secure a library-endowment fund, reported that \$1,500 had been raised as a permanent fund.

NECROLOGY.

The report of the necrology of the alumni showed that five members of the alumni had died during the past year.

ANNIVERSARY EXERCISES OF THE ALUMNI.

On Wednesday at 11 o'clock, the alumni listened to an oration by Rev. L. A. Austin, class of 1856, principal of Kimball Union Academy. His theme was "The duty of men of culture to take up the issue against corruption and fraud in politics and government." The speaker said:

The appeal of the country to the scholar has not yet been generally heard. It is a charge made with some measure of justice against educated men that they keep aloof from the affairs of common life. Too often is the scholar a recluse. Among his books he feels most at home, and this home-feeling, as it is indulged, gradually comes to exercise a kind of tyranny over him, forbidding his engaging in public affairs, and by and by his seclusion has unfitted him for the duties which he might have nobly done, had he taken them up seasonably. Professional study in particular becomes most ab-

sorbing. The rivalries of professional life stimulate him to devote himself wholly to his work. The pride of professional success holds multitudes to special studies, shutting their ears against all calls to work in other and wider fields. They have no time and no taste for making, as they ought, service to the country a part of their business. Their leisure is, as the scholar's taste delights to have it, elegant leisure.

COMMENCEMENT-DAY

occurred on Wednesday, July 16. The exercises consisted of an oration by each member of the graduating class, and the master's oration by Mr. H. S. Perrigo, class of 1870, principal of the State normal-school at Johnson.

DEGREES CONFERRED.

In the absence of official information it is taken for granted that the degree of A. B. was conferred on nine young men, the number of the senior class, as given in the last annual catalogue.

HONORARY DEGREES.

The honorary degree of A. M. was conferred upon A. R. Sabin and T. C. Cronin—2. That of D. D. was conferred upon Rev. Heman Rood, of Hanover, New Hampshire, and Rev. Herman Barnum, of Turkey—2.

RESIGNATION OF DR. KITCHEL.

The college has lost an able and every way admirable president, by the resignation of Dr. Kitchel. On account of the precarious condition of his health he felt himself compelled to retire from a position to which so many cares are incident. His successor is as yet unknown.

NORWICH UNIVERSITY, NORTHFIELD.

The 39th commencement of Norwich came on Thursday, June 26. The exercises of the day began on the parade-ground with infantry-drill, review, dress-parade, artillery-drill, &c. The rhetorical exercises were at Saint Mary's Church, Northfield, in which also were delivered an oration by the Rev. A. B. Flanders, on "The Workmen and their Work," and a poem by Captain C. A. Curtis, of the University.

DEGREES IN COURSE.

The graduating class consisted of nine members, of whom all received the customary A. B. Two others received that of Sc. B. in course for continued prosecution of scientific studies, and one more that of Sc. M. for still further continuance in these.

HONORARY DEGREES.

A. M., Nathan B. Cobb and Julius J. Etsey—2. Residence not given.

MASSACHUSETTS.

HARVARD UNIVERSITY, CAMBRIDGE.

Commencement-week at Harvard began June 24, with the exercises of the Divinity School, which constitute what is termed the Annual Visitation, this being the fifty-seventh. These exercises took place in Appleton Chapel, and consisted of dissertations by members of the graduating class and an address to the alumni by the Rev. Charles Lowe. The practical portion of Mr. Lowe's address related to a prospective change in the course of this department. He suggested that the time of study be lengthened from three to four or five years; that the student spend some portions of this time in the school and others in ministerial work, serving with some minister of good standing a sort of ministerial apprenticeship; and that he be allowed to preach during his term of study, at least in its later years.

COMMENCEMENT-DAY.

On the sunny 25th came the two hundred and thirty-second commencement, largely attended by the alumni and distinguished friends of this most venerable of American collegiate institutions. The exercises, presided over by President Eliot, were held in Appleton Chapel. Fifteen dissertations, ten disquisitions, and two orations had been assigned to members of the graduating class for meritorious diligence in the prosecution of their academic course; but only six of these were actually pronounced, one Latin and three English dissertations, one English disquisition, and one oration.

The degrees conferred were as follows: A. B., 129; Sc. B., 7; Sc. D., 1; Mining Eng., 2; Ph. D., 2; LL. B., 30; D. B., 2; M. D. 41; Doc. Dent. Med., 5.

HONORARY DEGREES.

No honorary degrees, so called, were bestowed. The degree of *Scientiæ Doctor* (doctor of physics) was given to Professor Trowbridge, and two recent graduates were made doctors of philosophy. But these degrees—the more honorable for that reason—were conferred only after special examination in each case.

MEETING OF THE ALUMNI.

The chapel-exercises over, the alumni began their proceedings. The annual business-meeting was held at 1 o'clock in University Hall, the

president, Hon. E. Rockwood Hoar, in the chair. One of the most interesting reports was that of the committee on Memorial Hall, which was presented by the treasurer, Mr. Henry Lee, of the well-known monetary firm of Lee, Higginson & Co. During the year \$23,760.05 was added to the fund, making the sum total of the fund \$127,950.85. Expended during the year for construction, \$82,722.30. The present amount in the hands of the treasurer is \$66,541.45. The treasurer of the college has also \$53,417.20 in his hands for the fund, making a total amount on hand toward the erection of the building of \$119,958.65. The subscriptions yet unpaid, with interest, amount to \$24,707.82.

The building will probably be completed so as to be ready for use next commencement-day. The report of the committee on class-subscriptions stated that \$37,849.10 had been received toward the second \$50,000.

ALUMNI-DINNER.

The procession to dinner formed at about 2.30, and at 3 the two halls were filled. Seats of honor at the table on the raised platform were taken by Judge Hoar, President Eliot, Governor Washburn, Ralph Waldo Emerson, Rev. Dr. G. W. Hosmer, president of Antioch College; President Loring, of the State senate, and two or three others. Dr. Hosmer was called upon for the prayer. The after-dinner exercises were begun by the singing of the seventy-eighth Psalm by all the company, led by the clear, cheery voice of the college-librarian, who has had the honor to perform this duty at twenty-four previous commencement-dinners. Judge Hoar's speech followed, witty and of sound sense.

PRESIDENT ELIOT'S ADDRESS.

President Eliot came next with his annual speech, marking the progress of the college since last commencement, the changes in its course, and the steady broadening of the policy of the governing corporation. He reported first that the subscription to make good the losses of the University by the great Boston fire in November last, now amounts to \$180,000. The large subscriptions of the professors, and of women whose dead sons, husbands, or brothers had been graduates of the colleges, was especially noticeable.

PROGRESS IN THE UNIVERSITY.

Passing to a consideration of the progress of the University, he spoke of the gradual bringing into the circle of the college the outlying professional schools. Our professional schools, he said, are now characterized by a discipline as thorough, and a spirit as liberal and lofty, as those of the college itself. They offer the same delights of good-fellowship, in ardent study, in strenuous competition, in social enjoyments. There was a time when a graduate of the college suspected that he went down when he joined one of our professional schools. The experience of the past few years

has quite convinced those who have wisely gone straight from college to professional school that they have gone up. This is as it should be. Professional training should be the climax of a liberal education. All the degrees now given by the University testify to residence under academic influence, and to attainments proved by searching examination.

The term of residence in several of our professional schools has been lately lengthened, but still needs to be further prolonged. Three years are none too much for law, four years for medicine and theology. By a recent vote of the corporation, passed at the instance of the academic council, a body comprising all the professors of the University, a member of one department can attend any instruction given in the other departments; thus a law-student can study history or political economy with the college-classes; a medical student can pursue chemistry with Professor Cooke, or zoology with Professor Agassiz; a scientific student can study German in Holden Chapel, or human anatomy at the medical college. We thus offer to the student in any one department the advantages of our whole organization so far as he can avail himself of them.

CHANGES IN THE REQUISITES FOR ADMISSION.

Important changes have been recently made in the requisites for admission to college. A portion of the Latin now demanded for admission has been abandoned in favor of Roman history, and in three successive years three additions to the present requisites will be made. In 1874, English; in 1875, the elements of French or German; in 1876, the rudiments of one or two of the natural sciences. In 1874, and thereafter, the examination for admission to college will be divided into two parts, so that the candidate, if he please, can pass a part in one year, and the rest in another year, returning to school in the interval. The college-faculty and the principals of the school agree that these improvements can all be made without advancing the present average age of admission, which is now high enough. In the scientific school, English, French or German, Latin, and the rudiments of some natural science, are to be added, in 1874, to the present requisites for admission.

EDUCATION OF WOMEN.

The only step toward education for women made by the corporation is to agree, at the request of the Women's Education Association of Boston, that the University shall hold examinations for young women at Boston, on the general plan of the local examinations, which have for several years been successfully conducted by the Universities of Oxford, Cambridge, London, and Edinburgh. Regarding the education of women, President Eliot spoke as follows: "There is no doubt that much needs to be done in this country for the better education of young women. Independent endowed local schools of high standard are the great need. Whatever this university can do to improve the education of young women, without interfering with its own historical, legitimate, and suf-

ficient work of educating young men, will be gladly done. The University will leave it to others to try experiments in educating adult young men and women together."

ELECTION OF OVERSEERS.

The voting for overseers resulted in the re-election of Ralph Waldo Emerson, (who received the largest number of votes of all,) Francis E. Parker, and Henry Lee, all three for the term of six years; of Rev. James Freeman Clarke for the full term of six years, who has been a member of the board, but has been out for a year; of George F. Hoar for the full term, and of Alexander Agassiz, to fill the unexpired term of Waldo Higginson, resigned.

PHI-BETA-KAPPA ORATION.

At the annual meeting of the Phi-Beta-Kappa Society, Richard H. Dana, jr., was chosen president, and in the subsequent exercises at Appleton Chapel, Mr. Dana presided. After prayer by the Rev. Mr. Brigham, chaplain of the association, Mr. Charles Francis Adams was presented as the orator for the day. The oration of Mr. Adams was so thoughtful and well digested, presenting important themes in a most impressive way, as to deserve a fuller notice than can usually be given to such addresses.

Reviewing the educational influence of Harvard, he said that while most European colonies, established primarily for commercial purposes, had been maintained for the material advantage of their founders, and had contributed little to the moral, the social, or the literary advancement of mankind, it had been wholly different here. Commercial advantages had not been the prime thing sought. Desire for freedom from persecution for opinion's sake had stimulated to the formation of the colony, and the root of its enduring vigor had been found in the moral resolution with which it started; while almost coeval with its settlement had been laid the foundation of religious, political, and mental training in this Harvard College of Cambridge. The college here had made the State, and not the State the college. Through the first century of the colonial period, the political and literary life of Massachusetts had been largely sustained by the presence of Harvard. Subsequently, that presence supplied the means of practically executing the legal provisions for the primary forms of instruction through the State. It helped to quicken the intellectual vitality of all the people. It imparted intelligence to the political discussions which marked the infancy of the independent State. It led to the recognition of mental culture as a necessary part of the training for good citizenship. And it aided in that progress of high education which has removed from America the reproach of literary imbecility, and helped to make our authorship the admiration of the world.

But, having served these high purposes, and served them well, the orator conceived there was a further purpose which the institution now might serve. It might become, of definite intention, a training-school for statesmen. It might have grafted on its other courses a class of studies especially adapted to prepare young men for meeting and mastering the political questions of the day. Then, training for political emergencies, now slowly gained by painful and laborious steps in after-life, might run parallel with the academic course, or come in at once to supplement it. Young men of high abilities might be familiarized with the details of government, and be prepared to accompany ambassadors, to hold the subordinate offices of state, to enter early the legislature or Congress, and, grappling intelligently with great questions, raise statesmanship here in America to something of the respectability which authorship has reached. The splendid field which Providence has opened us might be occupied by men fitted to garner its rich harvests, and on this scene of marvelous activity might come to be actors fully worthy of their place, straining their very utmost powers to rise to every great emergency, and do for fellow-men whatever mortal power has been able to effect since the forfeiture of Paradise.

GIFTS TO THE COLLEGE.

From Mr. J. P. Cooke and Professor J. P. Cooke, jr., toward improvements to Boylston Hall.....	\$1, 500
From Mr. Thomas C. Clarke, of Philadelphia, for the purchase of engineering instruments.....	50
From Mr. George R. Baldwin, of Quebec, for the same purpose	50
From Professor John Bacon, for the use of the chemical department of the medical school, the chemical apparatus left in the laboratory at the close of his term of service, with the cases and other furniture.	
From Professor Henry J. Bigelow, in behalf of the members of the former medical faculty, the fund known to them as the library-fund, amounting to	1, 422
Also a lot of land in front of the medical college, known as the Nelson lot.	
From Colonel Francis L. Lee, the appropriation for his professional services for eighteen months in and upon the college grounds, for improvements therein.	
From Nathaniel Thayer, for tiling tables in the chemical laboratory.....	350
From Dr. Edward H. Clarke, to the medical college, the plates and specimens used by him as illustrations of his lectures on materia medica.	
From the same anonymous friend to whom the college has been indebted for several similar annual gifts, for the botanic garden.....	1, 000

From Francis H. Appleton, for the purchase of books for agricultural department..... \$100

LEGACIES.

From John B. Barringer, of Schenectady, for the benefit of the chemical department of the Lawrence Scientific School, \$30,000.

From the trustees under the will of the late James Arnold, of New Bedford, to found a professorship of arboriculture, and to maintain an arboretum, \$99,345.48.

INCREASE OF LIBRARY.

From invested funds for the increase of the library an income of \$8,236.06 is derived. This has been increased by gifts from G. W. Wales, Hollis Hunnewell, and others, to \$8,534.10, of which the greater part has been expended for the purpose indicated.

The corporation, recognizing the great importance of the law-library to the law-school, spent on this during the year past more than \$3,500 for books and binding, making a total expenditure of more than \$10,000 in the last three years.

FINANCES.

The total of general investments belonging to the college is stated in the treasurer's report to be	\$1, 797, 587 34
Total of special investments.....	710, 666 67
Whole amount.....	2, 508, 254 01
Income from these investments.....	\$135, 390 87

AMHERST COLLEGE, AMHERST.

Third in the order of age, Amherst stands now so fairly second in the order of importance among the colleges of Massachusetts as to excite general interest in its commencements. This year, the first point in which that interest centered was

THE MEETING OF THE ALUMNI.

These have for some time been endeavoring to secure their proper share in the government of their *alma mater*, through a representation in the board of trustees. It was proposed last year that the election of the five State trustees should be transferred to the alumni, and an act to that effect was passed by the legislature. But its form proved unacceptable both to the trustees and the alumni, and at this meeting it was agreed to ask from the next legislature a new act, giving to the alumni the election each year of one of the five State trustees, the one

so chosen to serve in each case for five years from the date of his election, instead of for life, as now. This proposal is said to be agreeable to all concerned, and if the act to be solicited shall be secured, it will give the alumni of the institution a clear voice in its government, increase, of course, their interest in its concerns, and impart to their annual meetings a new element of life.

This matter being settled, the next point of interest was

THE ORATION BEFORE THE SOCIETIES.

Mr. Whitelaw Reid was the chosen orator for the occasion, and the natural expectation was that something fresh and new would be heard from his lips. A large and eager audience gathered, accordingly, in the old college-hall, and were not disappointed in their hope of novelty, the theme selected being "The duty of the American scholar to be a politician, and his duty as a politician."

The speaker said:

I wish, under favor of your patience, to depart a little from the accepted custom of the occasion. I venture to ask you, on this high-day of the Amherst year, to abandon scholastic themes for the hour, and pass to the broader plane of public affairs. In some colleges, such a discussion might, to many, seem out of place. It has certainly not been common to devote these hours of literary festival to affairs seemingly most remote from literature, to invite the scholar into the ward-meeting or the caucus, instead of Parnassus.

But this is Amherst, battle-ground and bulwark of orthodoxy, yet leader of progress; Amherst, that counts Noah Webster, prince of practical scholars, among her founders; that claims, and may well prize as a semi-centennial trophy, the first translation of the Assyrian inscriptions, and on the other hand merits equal honor as a pioneer in giving modern languages recognized place and right in the college-curriculum; that maintained her prayer-meetings as rigidly as her recitations, but was the first to make muscular Christianity a corner-stone of her creed, and practice in her gymnasium as indispensable as Cæsar or Thucydides; Amherst, with her old veins so full indeed of the new fever of our times that she even sent out her "Aggies" to beat the world in boating, and then calmly and peacefully finished the work in the most domestic fashion, by sending out her family crew to beat the Aggies!

Before such an audience I venture to urge freely the duty of the American scholar to be a politician.

It is at once the weakness of our form of Government, and the shame of our intelligent classes, that the demagogue, at the outset, has the advantage, and that the office-seekers mainly give the impulse to political movements. It is a bad impulse. They are a bad set who give it; and a not much better set who, in Congress, and especially in State legislatures, and small elective offices in great cities, constitute the average outcome. The fastidious father, who wants his college-bred son to keep out of politics, is altogether right, if he means by politics only this vulgar struggle of vulgar men, through vulgar means for petty offices and plethoric but questionable gains. Looking only at such agencies and such results, we may well marvel at the national prosperity, and fall back, in our bewilderment, upon Heinrich Heine's witty adaptation of Boccaccio's wicked epigram for an explanation: "The same fact may be offered in support of a republic as of religion—it exists, in spite of its ministers!"

Yet, where is the government that does better? Where is the government that does so well? And, no matter whether it does well or ill, paint our politics as black as you will, all the more, I say, you make it the duty of better men, in their own interest, to enter in and take possession.

What I wish, then, first of all, to insist upon, is the essential worth, nobility, primacy, indeed, of the liberal pursuit of politics. It is simply the highest, the most dignified, the most important of all earthly objects of human study. Next to the relation of man to his Maker, there is nothing so deserving his best attention as his relation to his fellow-men. The welfare of the community is always more important than the welfare of any individual or number of individuals; and the welfare of the community is the highest object of the science of politics. The course and current of men in masses that is the most exalted of human studies, and that is the study of the politician. To help individuals is the business of the learned professions. To do the same for communities is the business of politics. To aid in developing a single career may task the best efforts of a teacher. To shape the policy of a nation, to fix the fate of generations, is this not as much higher as the heavens are high above the earth? Make the actual politician as despicable as you may, but the business of politics remains the highest of human concerns.

There is a special reason why, in our country and time, it should more than ever command the best abilities of our best men. The reason, in a word, is that the age of the sentimental in politics has passed. We have ceased to conduct campaigns on fine feelings. Emotional politics went out with the war. Instead of questions about God-given rights, and bursts of pathos over the claim of every being God created to the free air of heaven, and thrills at the unfurling of the flag, we have serious reasoning as to the effect on national prosperity of putting a duty of one per cent. *ad valorem* on imported pig-iron; or the power of compelling railroads to carry passengers for three cents a mile, and freight in proportion without reference to the number of times you have to break bulk. All this is but a change that we see in all our institutions, that is in the times, is in the air. Even the under-graduates about us have felt it. Ten or fifteen years ago the staple subject here in Amherst, for reading and talk, outside study-hours, was, doubtless, English poetry and fiction. Now it is English science. Herbert Spencer, John Stuart Mill, Huxley, Darwin, Tyndall, have usurped the places of Tennyson and Browning, and Matthew Arnold and Dickens. The age itself has changed, and the politics change with it. We are no longer sentimental; we have mines to develop, instead of fugitive slaves to fight over; Congressmen to watch instead of United States marshals; the percentage on our funded debt to calculate, instead of a percentage for a draft; Pacific railroads to inspect, instead of army-corps.

At such a transition-stage in our national history it is well to look about us and gather together a few of the greater questions that already rise, large and vague, through the mists of the near future. Are they then worthy the attention of scholars? Rather let us pronounce that scholar unworthy of his opportunities, untrue to himself, his class, or his time, who neglects them.

Asking, then, "What is the legitimate function of scholars in this business?" the orator went on to answer that it was, with certain needful limitations, (1) to oppose the established; (2) to give an intellectual leadership to radicalism; (3) to resist the tyranny of party and the intolerance of political opinion, and to maintain actual freedom as well as theoretical liberty of thought; (4) to give candid consideration to every question on its individual merits, and cultivate fairness to antagonists, with a disposition to hear the other side. Said he:

Perhaps it is only the ideal scholar, whom no Dartmouth, or Yale, or Harvard has yet graduated, who will faithfully discharge these various functions in our politics. I frankly confess that, all along, as I have been enumerating the details of his work, there kept rising to my ears the moan of the Irish tenant about his grass-land. "That bit o' meadow doesn't turn out so much as I expected; and I always knew it wouldn't." But if he fails, it is the fault of the scholar himself. "No government can afford"—it is a scholarly New Englander, ill lost to New England politics, who gives us the word—"no government can afford the ill-will of the men who make

the books its people read," who utter the speeches its people hear, who lead the progress its people make. Least of all will a government of a people afford it. Let us remember the pregnant warning given us by as true a friend of free institutions as ever lifted pen in their behalf—the lamented John Stuart Mill: "No government by a democracy"—these are his words of warning to us—"either in its political acts, or in its opinions, qualities, and tone of mind which it fosters, ever did or could rise above mediocrity, except in so far as the sovereign many have let themselves be guided (as in their best times they always have done) by the counsels and influence of a more highly gifted and instructed few."

COMMENCEMENT-EXERCISES.

Out of twenty seniors who had the privilege of writing for commencement parts, happily for the audience, only nine, according to one account, thirteen, according to another, availed themselves of the opportunity. Something was thus saved of the strength that is usually exhausted by undue protraction of such exercises.

DEGREES IN COURSE.

The "good degree" of A. B. was then bestowed on 54 graduates who had prosecuted for four years the college-course, and that of A. M. on 18 others, who presented evidence of having kept up courses of either professional or literary study for at least three years from the time of their graduation.

HONORARY DEGREES.

Meriti causâ, the honorary title of A. M. was granted to Dr. L. E. Wells, of Washington, D. C., and C. C. Corss, of East Smithfield, Pa.—2; that of Ph. D. on Professor Arthur S. Hardy, of Dartmouth College—1; that of D. D. on Rev. Herman N. Barnum, missionary at Harpoot, Asiatic Turkey—1; and that of LL. D. on Professor John Bascom, of Williams College, and Dr. Nathan Allen, of Lowell—2.

BENEFACTIONS.

No legacies or gifts for the past year are officially reported, but a newspaper-account states that \$7,000 has been subscribed toward a collection of busts, statues, engravings, and photographs, and that the trustees have voted \$1,000 for the packing and freight of these, it being understood that the subscription for the purchase of them would be pushed to \$10,000.

LIBRARY.

The libraries of the college and the literary societies contain now above 38,000 volumes. By purchase, 1,555 volumes have been added during the year, and by gifts, 359 volumes and 40 pamphlets.

THE MUSEUMS.

The already extensive museums of the institution have been increased by the gift of about 1,000 specimens, and enriched by the donation of \$7,000 in money.

NEW BUILDING.

The latest and most beautiful addition to the buildings of College Hill is a new and elegant college-chapel, toward which the son of President Stearns is said to have contributed \$50,000, and other friends \$25,000. The church itself has cost about \$55,000; with additions, appointments, and furniture, the total expenditure will be some \$75,000. It is built from plans by Mr. W. A. Potter, of New York, of granite with red-stone trimmings, in the form of a cross, and enriched with ornamented gables, with choice stone carvings, polished Scotch granite shafts, large rose-windows, and smaller painted ones, and flanked by a handsome stone tower, rising 150 feet, with openings for memorial-windows for the college-graduates lost in the war, and holding a fine chime of bells, whose music daily charms a wide population of village and valley, and mountain beneath and about. The interior of the building shows the frame-work of the roof resting on a rich base of carved stone, and the walls and ceiling are a chaste but elegant illustration of modern decorative painting. Altogether the college-church will rank among the three or four finest church-edifices in the Connecticut Valley; while for beauty of location—standing on the southeast front of College Hill, and overlooking a wide reach of meadow, valley, hill, and mountain—it surpasses all.

CHANGE IN FACULTY.

Professor L. C. Seelye has resigned the chair of rhetoric and English literature, and accepted the presidency of the proposed Smith College for Women, at Northampton.

PRIZES.

Prizes of from \$10 to \$100 are annually presented to successful students. Thirty-seven were the recipients of them in the past year.

S. H. Washburn, of '69, secretary of the Home Insurance Company of New York, offers \$100 annual prize to that class which shall most fully obey all the instructions in, and attend to the duties of, the physical-education department. This implies an exhibition once each year, and regular attendance and proper behavior at all the gymnastic exercises.

SCHOLARSHIPS.

The scholarship-fund for the aid of meritorious students amounts now to \$70,000. No additions to it for the year past are reported.

PHYSICAL CULTURE.

Attention to the development of the physical system as well as of the mental is a marked characteristic of Amherst. The gymnasium is open during the day to members of the college for voluntary exercise, and at

an appointed hour each class is required to be present and engage in exercise under the direction of the professor of this department. These required exercises consist mainly of light gymnastics, the heavy and more difficult work being at the option of the students. The professor, an educated physician, is expected to be acquainted with the physical condition of each student during term-time, and all students are at liberty to consult him as to that condition without charge.

As to the boating exercises of the students there is said to be a difference of judgment between Professor Hitchcock, of the hygienic department, and Professor Crowell, of the Latin; the former thinking that the boating does not interfere with mental culture, the latter, that it is an irreparable injury to scholarship.

PUBLICATIONS.

History of Amherst College during its first half-century, 1821-1871. By W. S. Tyler Williston, professor of the Greek language and literature. Clark W. Bryan & Co., Springfield. 8°. 1873. \$5.

A Discourse Commemorative of Rev. Lewis Sabin, D. D. By Rev. W. S. Tyler, D. D. Bryan & Co. Pamphlet. 1873. \$0.25.

The Way, the Truth, and the Life. Lectures to educated Hindús. By Rev. Julius N. Seelye, D. D., professor in Amherst College. Bombay. 12°. 1873.

M. Tullii Ciceronis, De Officiis, libri tres. With explanatory notes, by E. P. Crowell, Moore professor of the Latin language and literature. Eldredge & Brother, Philadelphia. 16°. \$1.50

Manual Comparative Grammar of the Spanish Language, with a Historical Introduction. By W. L. Montague, professor of French, Italian, and Spanish in Amherst College. Schœnhoff & Møller, Boston, 1873. 12°. \$1.25.

Selections from Herodotus and Thucydides, with notes by R. H. Mather, professor of Greek and German in Amherst College. John Allyn, Boston, 1872. 12°. \$1.

The Electra of Sophocles, with notes by R. H. Mather. Allyn, Boston, 1873. 12°. \$1.25.

WILLIAMS COLLEGE, WILLIAMSTOWN.

PRELIMINARY EXERCISES.

The exercises of commencement-week here practically begin with the "reading off" of the class on the Friday previous to baccalaureate-Sunday. At the conclusion of the senior-examinations the class marched to the chapel, when the names of those who had successfully passed the examinations were presented to the president of the college by the Rev. Dr. Gale, vice-president, a member of the committee of examination. The speech, and the reply by the president, as usual, were in Latin.

BACCALAUREATE OF PRESIDENT CHADBOURNE.

Dr. Chadbourne had a full audience on Sunday to hear his first discourse to the graduating class. The venerable ex-President Hopkins took part in the service, read a hymn, and offered prayer with the old familiar simplicity, tenderness, and power.

The sermon of Dr. Chadbourne was worthy of his position and the reputation of the college. If any anxiety was felt as to his ability to meet the occasion, this feeling was soon dissipated, and all recognized that the college had at its head a man of power, fully adequate to all the exigencies of his position.

The discourse was intended as a reply to the Darwin school and the atheistic teachings of the day. He said in effect: "Admit all these sceptics say concerning man and his origin; admit that man in his physical nature is like the animals and plants—is under the rule of law and subject to decay and death; admit all this, and yet they do not touch the vital question of the inner and immortal life which mocks at death and lives forever."

MISSIONARY-COMMEMORATION.

Immediately after the baccalaureate, the audience repaired to Mission Park, where the usual prayer-meeting, established by the late Professor Albert Hopkins, was held in memory of the establishment of the first American society for foreign missions, by Samuel J. Mills and his coadjutors, 1808. Dr. Hopkins opened the meeting with a brief and pertinent address, in which he said they came there simply to pray and commune with God. Brief speeches and prayers were made by Rev. Mr. Washburne, a missionary, Rev. Mr. Corwin, of Jamestown, N. Y., a class-mate of President Chadbourne, Rev. Dr. Ormiston, of New York, and Rev. Stephen Tyng, jr.

ALUMNI-MEETING.

On Tuesday the alumni-meeting was held in the chapel, beginning its session at nine o'clock in the forenoon, Judge Dewey, of Worcester, in the chair.

THE WOMAN QUESTION.

The discussion of the question of the co-education of the sexes was the feature of the day. Last year two reports were made by the committee to whom the subject was referred—a majority-report by Judge Dewey and others opposing the admission of women to the college, and a minority-report by Professor John Bascom and David Dudley Field, advocating their admission. These reports were printed and their final consideration postponed till to-day. The discussion was opened by Professor Bascom in a speech, urging the policy and safety of admitting women to the full benefits of the institution. He was followed by Mr. Benedict, of

New York, a member of the senate of that State, who stated his objections, insisting that it would injure the college and work a revolution. This brought up Martin I. Townsend, of Troy, who spoke for women. He claimed that society does not provide for her daughters educational facilities equal to those her sons enjoy. He wanted a Harvard, an Amherst, and a Williams for the girls as well as the boys. Hon. Joseph White, treasurer of the college, followed in reply and enumerated the present and prospective provisions for the education of women—the Smith College at Northampton, the Simmons fund of Boston, and the institution now in process of erection by Henry Durant, of Boston, and other schools. He made a strong answer to the complaint that the educational facilities for women were meager and inadequate. He was followed by the Rev. Mr. Corwin, of Jamestown, N. Y., against the resolution of admission. Rev. Stephen Tyng, jr., of New York, spoke on the same side. The debate was closed by David Dudley Field with a strong appeal for equality and progress and a trenchant refutation of the fears of conservatism. The debate was one of great interest and stirred the audience more than any contest Williams has heard for years. The resolution for admission was defeated by a decisive vote—20 voting for and 49 against it.

COMMENCEMENT PROPER.

The exercises of commencement-day occurred on Wednesday morning, July 2, on which occasion 22 students received the degree of A. B. in course, and 5 that of A. M. in course. The faculty are said to have been well pleased with the class, and to regard them as among the best educated men they have sent forth. To the alumni it seemed a little strange that another man should present the diplomas, while the venerable Dr. Hopkins was at hand. But the short administration of President Chadbourne has been a decided success, and the college is fortunate in still retaining the services of Dr. Hopkins in his own department.

HONORARY DEGREES.

The degree of A. M., *honoris causâ*, was conferred on Professor Orlando M. Fernald, of Williamstown, Massachusetts; Capt. Ephraim Williams, of Norwich University; Dr. F. K. Paddock and Thaddeus Clapp, of Pittsfield; A. W. Humphreys, Wm. D. Andrews, and James K. Briggs, of New York—7.

That of D. D. was bestowed on the Rev. Eli Corwin, of Jamestown, New York, and the Rev. Wm. W. Adams, of Fall River—2.

That of LL. D. on the Rev. Dr. Roswell D. Hitchcock, of the Union Theological Seminary, New York; Hon. David Davis, Justice of the United States Supreme Court; Eli Tappan, President of Kenyon College, Ohio; and Judge Francis H. Dewey, of Worcester, Massachusetts—4.

NEW PROFESSORS APPOINTED.

Orlando M. Fernald, Lawrence professor of the Greek language and literature.

Ira Remsen, M. D., Ph. D., professor of physics and chemistry.

Rev. Edward H. Griffin, Massachusetts professor of the Latin language and literature.

LEGACIES RECEIVED DURING THE YEAR.

From estate of General John E. Wool, United States Army, \$5,000.

GIFTS OF MONEY.

From Rev. Henry Fowler, Auburn, New York, \$100.

From Hon. H. G. Knight, East Hampton, Massachusetts, \$2,500.

SCHOLARSHIPS FOUNDED SINCE LAST COMMENCEMENT.

Scholarship of class of 1851, \$2,500.

Scholarship of class of 1852, \$1,800.

Rossiter scholarship, \$1,000.

Partial payments toward other scholarships, \$500.

Amount of scholarship-fund about \$85,000 in all.

LIBRARY.

An annual fund for the increase of the library is derived from the Mrs. A. Lawrence gift of \$5,000, and that of Jonathan Phillips of the same amount. The increase of the library during the year has been 500 volumes. It has received as gifts in the same time: books, 170; pamphlets, 65; money, \$235.

MUSEUM.

Many important additions have recently been made to the museum of natural history. Among these are the mounted skeletons of the famous Australian marsupial, known as the wombat, the golden eagle, the bull-frog, the ray or skate, the gar pike, and a mounted specimen of the wild-cat. All these specimens were prepared and mounted by or under the supervision of Professor H. A. Ward, of Rochester, New York. The new and valuable herbarium of 8,000 specimens recently received from the late J. P. Brace, of Litchfield, Connecticut, has been poised and arranged for exhibition.

PUBLICATION BY A MEMBER OF THE FACULTY.

Wöhler's Outlines of Organic Chemistry, translated from the 8th German edition, with additions by Professor Ira Remsen, M. D., Ph. D.

CHANGES IN STUDIES.

These are the probable changes for the following year, as given by Dr. Chadbourne:

The required Latin and Greek will be reduced to four terms each, and after that they will become optional, but must be completed in the sophomore year. Mathematics will take up the same time as before, calculus being optional. Modern languages will be confined to junior year, and continue throughout the year. Natural history will be confined mostly to sophomore year. History and Professor Perry's other studies will enter into sophomore and junior years. These arrangements will leave the senior year with only two studies per day, or ten a week. For a time the third exercise will consist of lectures by Professor Young, of Dartmouth College, and a portion of the lectures on geology will, perhaps, be delivered during the year. This gives the seniors that leisure time for writing and reading which is desirable.

FINANCIAL CONDITION.

The financial report of the trustees, presented by Giles B. Kellogg, of Troy, showed that the whole amount of funds and securities belonging to the college June 1, 1872, was \$307,649. Such funds now amount to \$290,784; to the amount are to be added legacies amounting to \$13,500, making a total of \$304,284. As is common among educational institutions, the funds of the college are tied up, so that, while it is comparatively rich in land and special departments, it is embarrassed for money to meet the running expenses.

NEW BUILDINGS.

The trustees, aided by the alumni, have built and furnished College Hall, in order to reduce the price of board to students. The hall and all its equipments will be furnished free of cost; and all income from rent of rooms will go to diminish the price of board. The cost of this building has been \$12,000.

All persons employed in the hall will be paid by the college, and no person connected with it will be allowed any profit or perquisite of any kind, or be allowed to take money in addition to salary, for any service, under any pretense.

A new dwelling-house has also been erected, costing \$9,000; and the Sigma-Phi Society has put up for its uses the "Sigma-Phi Place," at a cost of from \$10,000 to \$12,000.

PHYSICAL TRAINING

is receiving the attention which its importance demands. The freshmen class have instruction from the president of the college in the general principles of physical education, with special reference to the habits of student-life. Later in the course anatomy and physiology are taught, illustrated with the manikin skeleton and anatomical preparations.

The large gymnasium is fitted with the best apparatus and furnished with every needed facility, under the direction of a competent instructor.

BOSTON UNIVERSITY, BOSTON.

Boston University was incorporated by the general court of Massachusetts in the year 1869. The purpose of its incorporators was not the establishment of a college in the ordinary sense of that term, but the building-up of a group of collegiate and post-collegiate schools in which, in the process of time, all forms of higher professional and general education might be conferred. The charter and general statutes of the institution contemplate the ultimate organization of at least a dozen distinct colleges and professional schools with as many distinct faculties. Of these three are already in successful operation, to wit, a school of theology, a school of law, and a college of music:

THE SCHOOL OF THEOLOGY

of Boston University, formerly the "Boston Theological Seminary," is now in its twenty-sixth year.

Dean, Rev. William F. Warren, D. D., 36 Bromfield street.

THE SCHOOL OF LAW

was opened last fall; it is therefore in its first year. Sixty-five students are in attendance.

THE SCHOOL OF MEDICINE

will be opened November 5, 1873. Students of both sexes will be admitted to the school of medicine on uniform terms and conditions.

THE COLLEGE OF LIBERAL ARTS.

This chief undergraduate college, providing the usual course for the degree of bachelor of arts, will be opened September 18, 1873. Ladies will be admitted to all the privileges of the college on the same conditions as gentlemen.

THE COLLEGE OF MUSIC

is designed exclusively for the graduates of musical conservatories and seminaries.

Dean, Dr. E. Tourjée, Music Hall, Boston.

 ANDERSON SCHOOL, PENIKESSE ISLAND.

Professor Agassiz's new Anderson School of Natural History, on Penikese Island, established through the munificence of a citizen of New York, was formally opened on the 8th of July. The company present numbered between sixty and seventy. About forty were prospective students, a third of whom were women. The visitors included Count Pourtales, of the Coast-Survey, and C. W. Galloupe, of Boston, who

has aided Professor Agassiz by the gift of the yacht *Sprite* for service at the island. These all went down to the island from New Bedford in the little steamer *Helen Augusta*. At the landing Professor Agassiz met them with a cordial greeting. The party was taken over the fresh lawn to the unfinished building for the dormitories and laboratories, and then to the large barn which is temporarily to be used as a lecture-room, and which had been fitted with chairs and tables for the occasion. It was all open, and the swallows kept flying through during the exercises. When all were seated Professor Agassiz rose and spoke as follows:

PROFESSOR AGASSIZ'S ADDRESS.

LADIES AND GENTLEMEN: I feel that you are in a strange position, and mostly strangers to one another. I miss, however, one more than I can express. The gentleman to whom we owe this opportunity is not among us, and I feel the disappointment of being unable to introduce to you his benevolent face. You do not know your teacher and I do not know those who are to be my pupils. We have come here almost without a connecting bond, but yet we have the desire to do something to advance the cause of education. That will draw us more closely together. I think we have the need of help. I know so little of your ways, and you know so little about mine, that I do not feel that I can call on any one here to ask a blessing for us. I know I would not have anybody pray for us at this moment. I ask you for a moment to pray for yourselves. [Here the speaker bowed his head for a few moments, the rest following his example, and then proceeded.] If we are strangers to one another now, I trust we shall part friends. There is enough in this realm of nature to excite the sympathies of all those who have them. Although I have had no opportunity of telling you what I propose to do, you have trusted me. I have seen it from your letters asking if you could venture. A new direction has to be given to public education. Our object is to study nature, but I hope I may lead you in this enterprise so that you will learn to read for yourselves.

NATURE AS A TEXT-BOOK.

There is one thing about which I am certain—that we don't begin our task by reading, by using any report of others concerning the objects to which we will turn our attention. We are, I suppose, all intelligent enough to open our eyes and look upon nature for ourselves, and we will try to make nature as it surrounds us its own text-book. If I can I will try to make you investigators, to teach you to find out what you want to know for yourselves, that you may be able to do the same thing in other places where you may have no guide. Whenever we study books we are one remove away from the things that we would be better acquainted with. Instead of the things themselves, we appropriate the report of somebody concerning these things, and if we have appropriated ever so correctly the substance of a book, we have yet to return to make a new study of the objects themselves whenever we turn to them. Now we have very little that is new here, and you may ask how it is that we can be investigators among things which are well known. But nothing is so well known as to leave nothing to be done about it, and then what you don't know yourselves will be considered by you as something utterly unknown.

The ignorance in which you may be about some of the features which surround us is sufficient to make these objects novel to you. You will, therefore, learn enough, and there are chances enough for knowledge in looking out the most common things. But it will tax your patience, and you will feel some discouragement, but you must overcome it. I had once a student, a near friend of mine now, who wanted to become a naturalist, and I had great hopes of him, so I put into his hand a piece of worn coral.

I told him I would give him a fortnight to find out something about it. He confessed to me afterward that never in his life had he been so taxed as with that piece of coral worn so that it showed nothing to his eye. He could make nothing of it. Once I saw him almost in despair, and I said to him, "Why don't you break it, and look for something on the inside?" That was the first intimation that led him to the real mode of looking at it. From that time he made progress. He is now a very keen investigator. If you find what I place in your hands taxes your patience to the utmost, think that I did it purposely, and that you have to overcome the difficulty you may encounter in some way or other, and it will lead you in the right direction for observing for yourselves. That is the great thing to gain.

WHY THE NEW ENTERPRISE HAS BEEN DELAYED.

I make no apology for the imperfection of our preparations. We are really only in possession of about one-fourth of our appliances for the room which will be occupied shortly. In about two days we will have about one-half ready. There was no possibility of hurrying our arrangements, for a great deal had to be done before we could make a material beginning. Before I could give directions for building, or consult with the architect, I must decide about the character of the school and what was to be done here, and the method I would apply in the instruction, for otherwise I could not have our laboratories appropriate for our work. I was determined that we should not be satisfied with that mode of proceeding of which we have so many examples in these medieval castles for the abode of modern science. I wanted, if possible, that our rooms should correspond at once with our work, and it was necessary therefore to determine even the numbers that could be admitted. I know very well that no teacher can teach a great many pupils. Therefore I determined that though I shall enjoy here the help of many competent scientific friends, we would have only so many pupils as we could teach well, and I determined upon the number of 50. It is a large number, in my estimation, but with good will something may be done, even with so many. Now, as soon as that was done, we determined a question of no small moment—whether ladies should be admitted. In my mind I had no hesitation from the start. There were those about us whose opinion I had to care for but did not know. I thought the best way was not to ask it, but to decide for myself. [Applause.]

It was February 22 when these grounds were dedicated to scientific purposes. It was not until May 1 that the plans could be discussed. The buildings were framed in New Bedford, for it was not easy to bring workmen here. On June 1 the buildings were raised. The first door of the building is designed for a laboratory, where you will have your appliances necessary for scientific work. The upper story is for dormitories. We are to have two such buildings. But this places you at once in the condition of explorers. Do you think those traveling over unknown countries had a hotel every night, and found their comfort in the kitchen? They had to carry their meats and beds with them, or lie on the ground. We start already on a little better footing than that.

THE DIFFICULTIES EXPLORERS MUST ENCOUNTER.

These difficulties remind me of some of the conditions under which the best work is done by explorers. As I shall have occasion to tell you in reference to these boulders of which this island is composed, I may as well tell you how I spent, in one summer, 72 consecutive nights on the bare ice, and at a level of 8,000 feet above the ocean without other covering than the canopy of heaven, and say a great deal I wish I could show you here. [Applause.] Take it in that spirit and pardon the discomforts you may experience. Our appliances for study are none but what nature affords. The land is limited by the sea, and to that you will have to turn your attention exclusively. I have asked you to bring no books; I hope you have followed my advice. The fewer you have, the more you will be left to nature's resources. The best work done

by the most prominent of our scholars has been done in regions, some richer, some less rich than this. Here the opportunities are as good as we can expect anywhere. It is only in tropical countries that the traveler can study a richer nature.

Here we have all we can expect for scientific work. We have good help in various ways. A gentleman here present has given the school a charming yacht to go with into the deep water and dredge, that we may become acquainted with the inhabitants of the sea. No other school on earth can do this. We have advantages from the Coast-Survey, and as that is one of the most important departments of the service, I want to tell you how that service is interested. The Coast-Survey is one of the most interesting scientific organizations in existence, and exercises the highest order of training. They need trained assistants. They will give us all the help they can that we may train ourselves to help them. I trust that under the guidance of Count Pourtales, who is the master of this kind of service, you will learn how to use the instruments necessary for exploring the shores, and at home you can apply the practice to the exploration of our lakes. We don't know what is at their bottom. One solitary lake of our larger lakes has been a little examined by the lamented Stimpson, and he found at its bottom marine animals resembling those of the Arctic seas. There is no knowing what you may find, if you learn how to explore, in the very neighborhood where you thought there was nothing to be found. Specimens for examination can be obtained from the museum at Cambridge. I have brought some which may be of use while we are learning.

THE PROGRAMME OF INSTRUCTION.

Now I would say a few words about our work. Every morning when I can be here I propose to give you a piece of advice about the way to employ your time. In proportion as you have made some progress it will be of different character. I shall invite you to ramble about the island to observe what there may be of interest. I shall constantly ask you to tell me what you have seen, to see how your minds work. Our chief work will be to watch the aquarium. I want you to study principally marine animals. The only way to do that properly is to have them alive by your side. In a very few days I shall place at your disposal a series of these appliances. I have ordered one for every person admitted to the school, so that each of you will have means to make these investigations. I have never had in my own laboratory better opportunities for work than I place at your disposal. Our way of studying will be somewhat different from the instruction generally given in schools. I want to make it so very different that it may appear that there is something left to be done in the system adopted in our public schools. I think that pupils are made too much to turn their attention to books, and the teacher is left a simple machine of study. That should be done away with among us. I shall never make you repeat what you have been told, but constantly ask you what you have seen yourselves.

Professor Agassiz then spoke briefly of the study of certain diagrams, of animal structure, microscopy, the currents of the ocean, and the phenomena of light, and concluded as follows:

SELF-RELIANCE TO BE TAUGHT.

What I want you to do in order to profit by this is to work yourselves. I shall turn your attention constantly in that direction. Don't read or ask questions. I shall not answer them, as you know you must understand things yourselves. It is a poor service to render to a pupil to give him a ready-made answer. I shall want you also to use the lens of the microscope, and also to learn the use of the knife. It is not a hard operation, if done properly. The housekeeper cuts the meat for her table in some way or other. The animals we dissect are not any more repulsive than many of the articles we use in the kitchen. Then why should you not make yourselves acquainted with the operations which are necessary for the study of these animals? This is about all I have to say. If you will give me and my friends your confidence, we will do the best we know how to promote your object. [Applause.]

The services then concluded with an invitation to dinner. During the whole time there was very little to remind the observer of the opening of an educational institution. A rough, unfurnished barn, about a hundred listeners, and Professor Agassiz in the center, dwelling upon the scheme which he has so long hoped to begin—that was the whole of the dedicatory exercises. The following is the list of scientists who will assist Professor Agassiz :

Dr. Burt G. Wilder, of Cornell; Dr. A. S. Packard, of Peabody Academy of Science, Salem; Count Pourtales, of the Coast-Survey; Professor Waterhouse Hawkins, of England; Paulus Roetter, artist of the museum at Cambridge; Professor Mitchell, of the Coast-Survey; Professor Joseph S. Lovering, of Harvard University; Professor F. W. Putnam, of Peabody Academy of Science, Salem; Professor N. S. Shaler, of Harvard, who was the first proposer of this scheme, and who is at present in Europe; Professor Arnold Guyot, of Princeton, N. J.; Professor Brown-Sequard.

TUFTS COLLEGE, COLLEGE HILL.

The curriculum at this college, in accordance with a fast-prevailing custom, embraces a philosophical and engineering, as well as a classical and mathematical, course. A theological school is also connected with it, the full course in which occupies three years for those who have passed through a regular course of academic study; for others, four years.

COMMENCEMENT-EXERCISES.

At the commencement, held June 18, parts were assigned to twelve of the candidates for the degree of A. B., to the one candidate for the degree of Ph. B., and to six candidates for the degree of Bach. Div.

DEGREES IN COURSE.

The degrees conferred on those who had completed the several prescribed courses of study were, of A. B., 13; of Ph. B., 1; of C. E., 4; of D. B., 6. No honorary degrees.

BENEFACTIONS.

Legacies received since last commencement: \$80,000 from Oliver Deem, M. D., of Franklin, Massachusetts; \$5,000 from Benj. Abbott, Boston, Massachusetts. Gifts in money during the same period: From N. C. Munson, esq., Shirley, Massachusetts, \$500; from Mrs. Mary T. Goddard, Newton, Massachusetts, \$500—in all, \$86,000.

LIBRARY.

The increase of the library for the year has been 1,154 volumes, 601 pamphlets. The gift of Mr. Munson, above recorded, was for the library.

MUSEUM.

The museum has received from the Smithsonian Institution, Washington, D. C., a set of geological and mineral specimens; from Mrs. L. Goddard, the gift of money above mentioned.

MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST.

An Amherst professor is president of this college, and the courses of the two institutions are designed to supplement each other.

EXAMINATION.

The examination of the senior class occurred on Wednesday morning, before the State Board of Agriculture, and was conducted by Professor Stockbridge, the members of the board occasionally suggesting questions. The exercises were oral, of an *extempore* character, and were intended to illustrate fully what is meant by the study of agriculture at the college, and the ground covered by the course.

The graduating exercises occurred on Wednesday, in Military Hall, and were participated in by four members of the class. Their theses were all of a scientific nature, excepting the last, which was upon "The Influence of the Arabs in Europe."

DEGREES.

The degree of Sc. B. was conferred on the class of thirteen, the diplomas being presented them by Governor Washburn.

THE WORCESTER FREE INSTITUTE OF INDUSTRIAL SCIENCE, WORCESTER.

This institution, collegiate in rank, but especially scientific in its training, is meant to be a companion to such others as the Lawrence Scientific School of Harvard, the Sheffield Scientific School of Yale, the Chandler Scientific Department of Dartmouth, the Van Rensselaer Polytechnic Institute at Troy, and the Lehigh University of Pennsylvania. Its aim is to train men to thorough acquaintance with the principles which underlie the various branches of industrial occupation, and to make them good architects, good engineers, good master-mechanics, and so on.

The third annual commencement was held on Wednesday, July 30. Fifteen of the graduates read theses on important practical subjects, and eighteen received in course the diploma of the institution, equivalent to the degree of Sc. B. in the universities. Two others were granted certificates of proficiency in a partial course.

NEW PROFESSOR.

A new chair of languages having been created and endowed, has been filled by the appointment to it of E. P. Smith, esq., (previous residence and title not given.)

BENEFACTIONS.

From the Hon. Stephen Salisbury, Worcester, for the endowment of the above professorship, \$40,000; from the Hon. Geo. F. Hoar, for general purposes, \$5,000.

COLLEGE OF THE HOLY CROSS, WORCESTER.

The exercises of the thirtieth annual commencement of the Holy Cross College were held in Fenwick Hall, Worcester, June 26. The shady avenue leading to the college was overhung with a banner bearing the word "*Welcome*" on the obverse and "*Valete*" on the reverse. Fenwick Hall was tastefully decorated in festoons from the center of the ceiling to the sides of the room, while medallions were placed in the halls, crossed with the names of ancient writers, philosophers, and statesmen. The hall was filled with the friends of the institution, almost all of whom sported the college-color, royal purple.

At the conclusion of the speaking by the young gentlemen, diplomas and prizes were awarded to members of the various classes for diligence in study and excellence in scholarship.

DEGREES.

Seven young gentlemen of the graduating class received the degree of A. B.

MOUNT HOLYOKE SEMINARY, SOUTH HADLEY.

The celebration of the thirty-sixth anniversary of Mount Holyoke Female Seminary began on Tuesday, July 1.

The public examinations of the graduating class occupied Tuesday, Wednesday, and a part of Thursday. The exercises were interspersed with musical selections and the reading of essays.

The examinations were of unusual excellence and showed the result of careful discipline. The education of the vocal powers, not heretofore holding its justly high place in the curriculum, has received careful attention the past year, the results being agreeably manifested in the reading of the essays by the young ladies.

PHYSICAL CULTURE.

Following the examinations was a gymnastic exhibition in the spacious gymnasium of the seminary, consisting of dumb-bell, ring, and wand

exercises, marching, &c. The performances showed that the physical training of the young ladies receives a fair share of attention in the instructions of the school.

SCIENCE AND ART BUILDINGS.

At the meeting of the trustees it was voted to erect a two-story brick building 70 by 50 feet, for a science and art gallery. The new structure will stand a little south of the main building, with which it is to be connected by a corridor, and will cost about \$30,000, \$7,500 of which are given by Mr. A. L. Williston, of Northampton. The trustees voted to give \$10,000, from the funds now on hand, and the balance will be raised by subscription.

GRADUATING EXERCISES.

After the exercises in Seminary Hall, a procession was formed of trustees, pupils, graduates, and friends, and moved to the village church. Prayer was offered by Rev. Mr. Peck, of Sunderland, and an address on "The higher education of woman" was delivered by Professor Tyler, of Amherst College, in which he urged, with force and eloquence, that her education, if it shall deserve the name, must be adapted to her nature and her sphere.

The most obvious peculiarity of her *nature* being a delicate bodily constitution, a first effort must be to guard her health, invigorate her constitution, develop her form, give color to her cheek, light to her eye, elasticity to her step, grace to her motions, life and joy to her whole frame. To this end her education should be, not exactly gymnastic, but largely calisthenic, so that the result may be strength clothed with beauty, and beauty informed with strength. And as her mental constitution is one involving more taste, more feeling, more fancy, perhaps more imagination, but less reason and judgment, than belong to men, her education should, in the next place, be fitted to develop the powers in which her superiority lies, and at the same time supply marked deficiencies. For the latter purpose, mathematics, logic, and philosophy must come in; for the former, rhetoric, belles-lettres, language, literature, and art. Her moral susceptibilities, too, being peculiarly delicate, she should have, for their development, instruction in ethics, anthropology, and theology—those all-comprehending and all-illuminating sciences which pertain to God and man, and the relations that subsist between them.

The *sphere* of woman being emphatically the home, and her work there the promotion of the health, comfort, and education of the household, she needs all knowledge for a work of such unlimited extent and unbounded influence. She needs, above all, to know herself, her physical and mental constitution, the laws of her own being, health, and life, for she is herself to be the fountain of being, health, and life to her children. As the mother and nurse of the family, the first principles,

at least, of anatomy, physiology, and medicine are indispensable. As the housekeeper, and, in a broad sense, the home-builder, chemistry, botany, and natural history, cookery, and domestic economy, the art of building, also, and adorning—all those arts and sciences which combine to make the home convenient, the grounds beautiful, the kitchen clean, the library cosy, the parlor neat, the table wholesome, the fireside cheerful, home attractive; all these branches of knowledge are needful to her; all these have more to do with the character and happiness of the family than we are apt to think. And this is not the least important department in the higher education of women.

For her work as an educator she should be taught the science and art of education, and the schools for women thus be largely, and in a broad sense, normal-schools. Thus trained, she may disseminate blessings around her, be a comfort to herself, a joy to her household, and a source of light and gladness to the world.

After the address the diplomas were presented by Rev. Mr. Green to the graduates, numbering 48.

EXTENSION OF COURSE OF STUDIES.

French, German, and Greek were pursued as optional studies for the first time last year, and about fifty pupils have taken up the modern languages, while five are digging away at Greek roots. The standard of admission is being raised from year to year.

NEW TEACHERS.

A native teacher of the French language, Mademoiselle De Monpas-sant, was the only addition made to the corps of instructors during the year.

BENEFACTIONS.

The seminary has received, since the last anniversary, a legacy of \$1,000 from the late Dr. Jonah Kittridge, of Glastenbury, Connecticut, and a gift of \$7,500 from A. Lyman Williston, esq., of Florence, Massachusetts.

SCHOLARSHIP-FUND.

The scholarship-fund now amounts to about \$19,000. About \$15,000 of the sum was bequeathed to the seminary some years ago by Miss Phœbe W. Hazletine; but the will being contested, the money did not come into the possession of the treasurer till last winter.

LIBRARY.

The number of volumes added to the library during the year was 824, nearly all of them gifts from Mrs. Henry F. Durant, of Boston.

MUSEUM.

The museum was increased by gifts of a collection of Chinese ferns, specimens of insects, two very valuable steel-engravings, also some chromos, photographs, and statuettes.

PUBLICATIONS.

The annual catalogue of officers, students, &c., of the seminary, anniversary programme, and a circular relating to specimens wanted for the natural-history museum.

THE MARY LYON FUND.

A circular has been issued calling on the *alumnæ* to form associations for the purpose of raising a fund for the institution, to be known as the Mary Lyon fund. The effort was started by the New Haven *alumnæ*, and has been taken in charge by a national association, of which Mrs. Moses Smith, of Chicago, is president.

RHODE ISLAND.

BROWN UNIVERSITY, PROVIDENCE.

The one hundred and fifth annual commencement of Brown University excites marked interest as the first under the administration of the new president, Rev. Dr. E. G. Robinson, formerly of Rochester Theological Seminary. Under him the university has prospered during the year, though there has been no singular or special advance over the progress of preceding years.

June 24, at 9.30 o'clock, the Phi-Beta-Kappa Society met in Manning Hall and elected Professor T. S. Greene, LL. D., president for the ensuing year. After the business-meeting the members of the society marched to the First Baptist Meeting-house, where Professor Charles C. Everett, D. D., of the Divinity School of Harvard University, delivered an oration on "The imagination in its relation to life and culture."

THE ALUMNI-MEETING.

A meeting of the alumni was held in Manning Hall at 4 o'clock. The graduates of the university gathered in large numbers. Inspired with earnest interest in their *alma mater*, the alumni of Brown have been for years impatient for a participation in its government. The college-charter is perpetual, and cannot be modified save by the consent of the corporation. It vests the whole government in the boards of fellows and trustees with the power of continued succession. The corporation cannot relinquish this trust by a voluntary abnegation of power, and is adverse to legislative changes. While the charter remains as it is, the alumni can have no share in college-government known to the law. The gist of this afternoon's long discussion was the aim of the alumni to get an advisory capacity in the college-government. An alumni committee of conference with a corporation-committee presented a report, through the Hon. H. B. Staples, of Worcester, recommending the annual appointment of an advisory board of seven alumni, who shall advise with the corporation in all suitable matters, and the nomination of the alumni at their annual meeting of three of their number for any existing or future vacancy in the board of trustees, the advisory board to recommend one of the said three to the corporation for election. William Goddard, of Providence, spoke for the corporation, praying for co-operation of the alumni and corporation, and the adoption of some such plan as proposed by the committee which the corporation would accept. The committee's report, amended by requiring the advisory board to recommend to the corporation the three names selected

as candidates by the alumni, and no others, passed unanimously. The Hon. Rowland G. Hazard, of Peacedale; Mr. Alex. Farnum, of Providence; Col. E. B. Stoddard, of Worcester; Ex-President Alexis Caswell, of Providence; Professor S. S. Greene, of the university; Mr. Charles B. Goff, of Providence; and the Hon. Frank W. Bird, of Walpole, were appointed as the alumni advisory board. Two vacancies in the board of trustees, caused by the death of Richard Arnold and John B. Hartwell, both of Providence and both Baptists, were announced. To avoid haste in so weighty a matter, the nomination of candidates to the corporation on Thursday was deferred, and the advisory board was instructed to prepare and publish a plan for the voting of alumni for candidates for trustees. The association adjourned after re-electing its old officers.

COMMENCEMENT-DAY.

On June 25 the alumni assembled early in and about the college-building, being represented by men of all ages, from the gray graduate of three score and ten to the stripling just weaned from the bosom of his *alma mater*. The graduates, present in greater force than usual, discussed the action taken at the meeting of the Alumni-Association yesterday afternoon, and found good augury for the future welfare of the college in even the slight step made toward welding the scattered sons of Brown by firmer ties to their foster-mother. The administration of President Robinson was generally considered to have begun with the fairest auspices.

The annual procession of the alumni, in the order of their classes, with the graduating class, graced by the presence of State and city dignitaries, was formed before Manning Hall, in the college-yard, at 9.30 o'clock, and, preceded by a band, marched to the First Baptist Meeting-house, which was crowded to excess. The programme embraced twelve orations.

DEGREES IN COURSE.

The graduating class numbered 40 members, of whom 30 received the degree of A. B. and 10 that of Ph. B. The degrees of A. M. in course were 19.

HONORARY DEGREES CONFERRED.

Ph. B.: W. Whitman Bailey, Providence, Rhode Island—1.

A. M.: Professor Charles D. Bray, of Tufts College; Caleb F. Harris, Providence; Hon. Henry Howard, governor of Rhode Island—3.

LL. D.: Hon. Thomas Allen Jenckes, of the class of 1838, Providence, Rhode Island; Hon. George Van Ness Lothrop, of the class of 1838, Detroit, Michigan; Hon. Henry Chapin, of the class of 1835, Worcester, Massachusetts—3.

THE ALUMNI-DINNER.

After the exercises in the church the procession was reformed and,

with greatly increased numbers, marched back to the college-grounds, and into a large tent pitched on the campus in the rear of University Hall, where the customary commencement-dinner was eaten. Poems were read by Hon. Charles Thurber, of Brooklyn, and Mr. Henry Whitaker, of Providence. President Robinson spoke of the history and accomplishment of the university, and urged its great needs. It must have much money and be greatly changed to keep pace with progress and to befit its situation in the very center of American manufacturing industry, and in a city the wealthiest in the world, according to its size. Twenty-five thousand dollars had already been pledged by a friend of the university. Every graduate and every friend of education must loose his purse-strings, and put his shoulder to the yoke. The Hon. Charles S. Bradley, of Providence, stated that the class of 1838 had agreed to endow an ample scholarship with \$3,000, or more if desired, in memory of deceased classmates.

CHANGES IN FACULTY.

The faculty of Brown now numbers nine professors and four lecturers and instructors. Last year there was the same number in the faculty, but the presidency and the professorship of moral and intellectual philosophy were distinct, being filled by the Rev. Dr. Alexis Caswell and George I. Chace, LL. D., respectively. Professor Chace having resigned his chair to travel in Europe, Dr. Robinson, his successor to the presidency, assumed also the vacant professorship. The appointment of J. W. P. Jenkes as director of the museum of natural history and lecturer on special branches of agriculture increased the faculty to its former number. In the university there are now 204 undergraduates, against 224 last year.

SCHOLARSHIPS.

Five scholarships—amount not given—have been founded since the last commencement.

LIBRARY.

The increase of the library from purchases has been about 500 volumes. From gifts, about 100 other volumes and 300 pamphlets have been received.

MUSEUM.

The museum has been augmented by many gifts in various departments of natural history. It has also had \$1,000 given it for new show-cases.

PUBLICATIONS.

Report of treasurer and annual catalogue for 1872-'73.

CONNECTICUT.

YALE COLLEGE, NEW HAVEN.

OPENING OF COMMENCEMENT-WEEK.

According to time-honored custom, the baccalaureate-sermon, by President Porter, introduced the commencement-week at Yale. This sermon, from the text "Who is he that overcometh the world, but he that believeth that Jesus is the Son 'of God?" was an argument for the acceptance of Christ as a personal Savior, in opposition to those who would make Him a mere ideal, subjective, or imaginary being. It urged that He be taken to the heart as He is presented in the Scriptures, as the Son of God and Son of Man, almighty in His power, and most human in His sympathies; that the idea of connection with such a Savior was needed by all who enter on the conflicts of existence or give themselves to the business of the world; needed the more as culture refines the sensibilities and enlarges the capacity for happiness or pain; and needed as long as groping souls should be seeking after God, or sinful ones be longing for forgiveness, or struggling ones want help in their great conflicts, or suffering ones require sympathy and aid from a being that can be touched with a feeling of their infirmities.

SHEFFIELD SCIENTIFIC SCHOOL.

On Monday evening came the anniversary-exercises of the Sheffield Scientific School. These consisted mainly in the reading of extracts from theses prepared by members of the graduating class as one of the conditions of their graduation, after which the names of the successful contestants for prizes were announced and the diplomas distributed. The exercises were held in the new building, of which notice will be given elsewhere.

PRESENTATION-DAY.

Tuesday, class- or presentation-day had its usual amount of overflowing mischief, and, as an unusual thing, a fifty-minute oration from the class-orator, William Addison Houghton, of Holliston, Massachusetts, who took for his subject, "The future of American democracy, especially as affected by the growing influence of great railroad-corporations on the material prosperity and the legislative action of our land"—an oration which is said to have been listened to with great attention by the professors and members of the college present.

MEDICAL AND LAW SCHOOLS.

The closing exercises of the Medical School were also held on Tuesday, the 24th, the examination of the class occurring in the morning and the delivery of the diplomas in the evening. Three candidates received the degree of M. D. on this occasion.

The Law School closed its exercises the same day, with 15 graduates.

MEETING OF THE ALUMNI.

Wednesday of commencement-week is the set time for the meeting of the alumni, who gathered on this occasion in great numbers. The chief feature of the occasion was an allusion by Hon. William M. Evarts to the decay and disbandment of the old literary societies, with an urgent appeal for the revival of their exercises as a means of developing and cultivating eloquence. Judge Pierrepont, too, spoke forcibly of the character which Yale stamped on its students, and alluded feelingly to the important fact that amid the wreck of public reputations last year in the United States, the good name of no Yale man was touched. 'Never forget,' he said in conclusion, "that a college is not primarily a place of knowledge, but quite as much of training, of discipline, of character."

The annual necrologic list of the deceased alumni contained many names of men that will be sadly missed, such as those of Professor Hadley, long identified with Yale; Dr. Peet, the successful educator of the deaf and dumb; Dr. Saunders, founder of the Presbyterian Free Hospital in Philadelphia; Dr. Gurley, the life of the Colonization Society for years; the Hon. R. I. Ingersoll, once minister to Russia; Hon. Henry Hogeboom, of New York, judge of court of appeals; Dr. Leavitt, the well-known editor, with others that have made their mark upon their generation and done large service in the Church and in the world. The whole number of deaths reported was 82.

REPORT OF THE COMMITTEE ON THE WOOLSEY FUND.

The executive committee that have especially in charge the effort to raise \$500,000 for the college, reported in the afternoon to the general committee that 33 per cent. of the proposed fund (\$167,115.03) had been subscribed by 16 per cent. of the living graduates, and that \$100,000 had been paid over to the college-treasurer, on the condition of the passage of a resolution by the corporation that it should be held forever as a permanent fund, to be designated as the Woolsey fund, always to be invested in productive securities, and the income devoted to the uses of the university as the president and fellows might from time to time direct. Of course, this resolution was in due form passed, and that portion of the Woolsey fund made thus forever a part of the endowment. To complete the enterprise there yet remains \$332,814.97 to be

raised. Some thousands of this were subscribed at the class-reunions in the evening.

ELECTION OF NEW MEMBERS OF THE CORPORATION.

The election held to-day by the alumni, to fill the two vacancies in the corporation, caused by the expiration of Mr. Evarts's term and by the resignation of Mr. Joseph E. Sheffield, resulted in the choice of Hon. William M. Evarts for a new term, and of Mason Young, esq., of New York City, for the five years remaining of Mr. Sheffield's term.

COMMENCEMENT-DAY.

At 9 o'clock on Thursday, the 26th, a bright and breezy day, the procession of college-officers, visitors, and students was formed and proceeded to the Centre Church, where, after prayer by President Porter, fifteen orations and dissertations were delivered by selected members of the graduating class. The delivery of diplomas followed, 112 of the academic department receiving the degree of A. B. in course, and 43 that of A. M. in course.

In the philosophic department, inclusive of the Sheffield Scientific School, 29 were made Ph. B. in course; 2 Dyn. Eng.; 2 C. E., and 8 Ph. D.

Of the law school, 15 became LL.B.; of the medical, 3 M. D.; of the theological, 21 D. B.

HONORARY DEGREES.

D. D.: Professor J. H. Thayer, of Andover Theological Seminary—1.

LL. D.: Professor Lyman H. Atwater, D. D., of Princeton College, New Jersey; Hon. Origen S. Seymour, chief justice of Connecticut supreme court; Hon. Edwards Pierrepont, of New York City—3.

M. A.: Ex-Governor James E. English, of New Haven; Ex-Governor Marshall Jewell, of Hartford; Mordecai C. Cook, of England; Rev. Richard C. Greene, of Springfield, Massachusetts; Professor N. M. Terry, of United States Naval Academy; Henry C. Townsend, of Philadelphia; Professor John E. Clark, of Yale College; Professor Johnson T. Platt, of Yale College; Professor Francis A. Walker, of Yale College—9.

THE ALUMNI-DINNER.

Although the formal annual meeting of the alumni of Yale takes place on the Wednesday before commencement, the informal gathering at the dinner, given by the college to its alumni, immediately after the close of the commencement-exercises—when the president and corporation, with distinguished guests, the faculty, the alumni by classes in order of seniority, closing with the class that has just graduated, now for the first time admitted to the company of the alumni, march in ordered procession from the great college-tent, pitched in front of

Alumni Hall, into the hall—is the real attraction of commencement to most of the older graduates, for the half-hour before the opening of the dining-hall affords the best opportunity for greeting old friends, and the meetings under the tent are full of pleasant surprises.

Seats were provided for six hundred, classes being seated together. After the confusion of seating subsided, a brief prayer was offered by Ex-President Woolsey. At the conclusion of the repast, President Porter made a brief opening-address, in which, after paying a feeling tribute to the great loss to the college and true learning experienced during the past year in the death of Professor James Hadley, he reviewed briefly the history of the college in its various departments during the year.

The announcement of the establishment of a fellowship by Hon. Samuel Miller, and that the brilliant valedictorian of the graduating-class, Mr. Tarbell, had been chosen to fill it, was received with applause. The receipt of \$100,000 for the Woolsey fund was acknowledged, and certain proposed changes thereby made possible, increasing the instruction given to the freshman and sophomore classes, given in detail. "It was, he said, their further policy to enlarge the faculties in all the departments, to provide more largely for graduate students, and thus in time to form a real university, including careful tutorial instruction at first, and enlarged and liberal culture in the end."

"This policy has been forever settled. There is no desire to turn a good college into a sham or a poor university, or to contract the limits of liberal studies. To enable the college to accomplish this, the earnest support of the alumni was confidently relied on. No man can tell what changes may be required within the next ten or thirty years, but whatever requirements may be reasonably made by an advanced and enlightened sentiment they shall be met if the graduates of the college will give it the assistance it needs."

The president then introduced the Rev. Dr. Ely, professor in the University of Glasgow, and the Rev. Dr. Calderwood, of the University of Edinburgh, the latter an eminent metaphysician. Professor Ely spoke for a few moments, with marked Scotch accent. He spoke in praise of the exercises of the day, especially complimenting the valedictory address. He also alluded in terms of the highest praise to President Porter, as one whose reputation as a profound scholar was well known in Scotland. He was glad to hear that the curriculum was to be enlarged and broadened. More culture and scholarship is needed, and the courses of graduate study are especially important.

Professor Calderwood also expressed himself as greatly pleased with his observations at the college. "He was not sure that he should dare to tell his students at home all the privileges of the Yale students, for fear they would become clamorous to have them introduced. In Scotland no music was allowed on such an occasion, but he was sure it was a most pleasing feature, and he should almost approve its introduction at

home." He concluded with an eloquent reference to the study of metaphysics, which is a favorite science with Scotchmen, who, on this account, knew and honored the name of Yale's president.

Ex-President Woolsey, the next speaker, was greeted with enthusiastic demonstrations of regard. He spoke of the defects of the college when he entered it in 1816. "There was too little incitement to study; the student was left too much alone. He thirsted for knowledge, and the college did not satisfy his needs, so he read by himself various Latin poets, a great part of whom was not fit to read, and he contracted great faults of study, requiring years to overcome. The danger then was of acquiring a fluent, hasty scholarship. Now all this is changed and there is thorough instruction from the first, a system which the president and all his colleagues have determined to carry through if the graduates will furnish the means. The essence of a liberal education is in placing knowledge below culture, and culture below character. Let the young man have the thirst for knowledge and by and by he finds that something which we call culture, and if the knowledge all passes away the culture which remains will be worth all the cost. In acquiring culture character is formed. The student becomes a man with the spirit of accuracy, the love of truth, understanding the history of past ages, and seeing a great plan in the world emanating from the infinite mind—a divine development; I do not mean "evolution." I don't believe in a cell or a monod, a mass of jelly with a mouth and tail, from which finally is evolved a man. Power is worth nothing without character. I believe the highest purpose of this instruction is to preside over the spirit and general development of the student and to help him form a manly character."

President Porter then introduced the Hon. William M. Evarts, who thanked the alumni for his re-election, and made an urgent plea in behalf of the Woolsey fund.

Excellent speeches followed from members of the class of 1853, a class remarkable for its large number of talented men. Two of the speakers were ex-confederates. General Randall Lee Gibson, of Louisiana, and General Stoddard Johnson, of Kentucky, both made brief addresses, expressing the fervor and devotion of their attachment to the college, and bearing testimony to the strength of these ties during the bitter struggles of the war. General Gibson paid a touching tribute to the memories of President Day and Professors Olmstead and Silliman. Hon. I. Wayne McVeagh, ex-United States minister to Constantinople, in a characteristically brilliant speech, recalled old memories, and made a strong plea for the revival of the old college-societies, the Brothers in Unity and Linonia. Colonel Homer B. Sprague, class of 1852, followed in an eloquent appeal in the same strain, declaring that "those two societies in their palmy days were the best schools of oratory in the country."

Perhaps the most interesting episode of the afternoon was the speech of Rev. Mr. Turner, of Hartford, a graduate of 1819, the oldest present

When he was a young man, struggling with poverty, he had given the college \$200. "I have come here to-day to give my \$500, and here it is." He had a son in '46, and a grandson in '68.

The concluding speech was by Professor Sumner, of the class of 1863, who gave an interesting report of the recent advances made by the college, and its hopes and aspirations for the future.

CHANGES AND ADDITIONS TO THE FACULTY.

In the department of philosophy and art, at the last commencement, the professorship of modern languages founded by the late A. R. Street, esq., of the class of 1812, was, at the request of the incumbent, Professor E. B. Coe, and in conformity with the original desire of the founder, restricted to the French and Romance languages, by the establishment of a new professorship of German and the Germanic languages. To this Mr. Franklin Carter, formerly of the class of 1859, was appointed, resigning his professorship of Latin in Williams College. During the past winter he has been in Europe, studying in preparation for his new work, and is expected to begin his duties in the coming autumn. During the past year also Professor A. W. Wright has begun his instruction in chemistry and physics.

The Sheffield Scientific School has, during the past year, lost the services of Professor D. C. Gilman, who has accepted the presidency of the State University of California. The vacancy thus caused has been filled by the election of General Francis A. Walker, Commissioner of Indian Affairs and Superintendent of the United States Census. The chair of Professor Walker is designated as that of political economy and history.

In the law-school, Rev. Leonard Bacon, D. D., LL. D., has consented to deliver an annual course of lectures at the school on ecclesiastical law, and Professor Baldwin has taken the place of the late Professor Hadley in lecturing on Roman law. Rev. William W. Atwater, of the class of 1846, has been appointed librarian of the department, and has entered upon his duties.

The medical school has to record the resignation of two of its professors during the past year, viz, Professor C. L. Ives, M. D., and Professor G. F. Barker, M. D. Professor Ives filled the chair of the theory and practice of medicine. The vacancy occasioned by the resignation of Professor Ives will in all probability be filled by Dr. David P. Smith, of Springfield, Massachusetts, who has been nominated to the corporation of Yale College for that position. The chair left by Professor Barker is still vacant, but full provision will be made for instruction in this department before the beginning of the lecture-term.

In the post-graduate department, which now contains 30 graduates of the college, besides 50 from the philosophic schools, Mr. J. Hammond Trumbull, of Hartford, has agreed to fill a new lectureship on the Indian languages of North America; while, with a view to greater subdivision

of the freshman-class, and bringing the students into closer relations with their instructors, tutorships have been offered to Stuart Phelps, of the class of 1869; E. S. Dana and S. R. Morrow, of the class of 1870; and C. D. Hine (of Lebanon, Connecticut) and W. B. Riggs, of the class of 1871.

Mr. Frederic R. Honey has been appointed "instructor of geometry and perspective" in the School of Art.

NEW FELLOWSHIP.

The college receives this summer the fund for a graduate fellowship, the first, it is reasonably hoped, of a number of such foundations. The sum of \$10,000 is given by the Hon. Samuel Miller, of New Haven, to found the Douglas fellowship, so named in memorial of his wife's brothers, Rev. Sutherland Douglas, of the class of 1822, and George H. Douglas, of the class of 1828. By the terms of the gift it is to yield at least \$600 a year, and the holder of the fellowship is to be chosen from the recent graduates in arts by annual election, with the sole restriction that the same person shall not continue in receipt of the income for more than three years. The selection is to be made on the ground of high promise in scholarship and worth of character, and the incumbent is expected to render to the college certain defined service, such as shall not, however, interfere with his private study. Mr. Frank Bigelow Tarbell, of West Groton, Massachusetts, the valedictorian for 1873, has been made the first incumbent.

BENEFACTIONS.

Besides the \$100,000 from the Woolsey fund and the above-mentioned foundation for a fellowship, a legacy of \$1,000 has been left to the college by Mr. H. W. Scott, of the class of 1863, from the income of which two prizes of the value of \$30 each are to be given yearly in the form of books, for excellence in the scholarship of modern languages, or such other department of study as the faculty may select. A gift of \$1,000 has been made by Mrs. Julia J. Abbe, of Hartford, to be added to the beneficiary funds, with the name of the Jones scholarship, in memory of Rev. E. C. Jones, of Southington, a late member of the corporation.

In the theological department a bequest of two thousand dollars has been received from Mrs. Edward Bull for the foundation of a scholarship, to be named in honor of her husband, the Rev. Edward Bull, (Yale College, 1816,) late of Cheshire, Connecticut, who was one of the students who memorialized the corporation of the college, in 1822, for a more full provision for theological instruction than had been previously enjoyed in the college, and in connection with whose petition the seminary was established. A legacy of \$1,000 has also been made to the institution by Rev. Thomas Tallman, late of Scotland, Connecticut, a graduate of the class of 1840, who has, thus, like several other graduates of the seminary, kindly remembered its interests in the final dis-

position of his property. Mr. Henry Trowbridge, of New Haven, has added to his former donations, for the reference-library, a gift of \$300, for the purchase of the most important theological books, in various languages, which have been published during the year. Hon. James E. English, of New Haven, has also laid the foundation of the permanent endowment of the law-department, by giving to the college the sum of \$10,000, in trust, the income to be devoted annually to the maintenance and increase of the law-library.

The Sheffield Scientific School, besides a new building from Mr. Joseph E. Sheffield, has received \$1,000 from Mr. John J. Crooks, of New York City, and \$570 from the class of 1871.

THE LIBRARY.

The increase of the library for the past year has been 1,800 volumes, 800 by purchase and the remainder by gift, and 1,200 pamphlets also by gift. In the purchases are included 125 volumes added to the Salisbury oriental collection from funds provided by Professor Salisbury.

The following gifts of money for special departments of the library have been received and will be expended during the coming year: From Professor O. C. Marsh and Mr. Frederick W. Stevens \$500 each for Chinese and Japanese literature; from Mr. George Peabody Wetmore \$200 for the department of political economy, and from an anonymous donor \$50 for the same object.

The gifts in books have been as follows:

Professor Dana, to whom in past years the library has been largely indebted, has given 300 volumes, embracing several valuable series of publications of learned societies, and scientific journals.

From Mr. Richard S. Fellowes the complete set, as far as published, of the *Archæologische Zeitung*, 29 volumes quarto, with the promise of the continuation; also the documents relating to the history of the Netherlands, published by Gachard, 17 volumes quarto and octavo.

From Rev. E. L. Heermance, Tischendorf's *Monumenta Sac. Inedita*, 8 volumes; F. W. Stevens, esq., *The Mirror of Parliament*, 30 volumes; State of California, the publications of the geological survey of the State, 5 volumes; Imperial Academy of Sciences, St. Petersburg, 9 volumes of its Bulletin; Messrs. Holt & Williams, publishers, 23 volumes.

The proposed consolidation of the libraries of the two societies, the Linonian and the Brothers in Unity, spoken of in last year's report, has been carried out. The books have been entirely re-arranged, many worn-out volumes thrown aside, about five thousand duplicates set apart for sale or exchange, and a new catalogue, an octavo volume of 344 pages, printed. About 500 volumes have been added during the year. In the law-library over \$12,000 has been expended during the year in the purchase of new books, and the collection of English and American reports is now complete. A considerable number of modern law-

treatises have also been added to the library, so that it is now in a very satisfactory condition.

The college-library now contains over 60,000 volumes; those of the Linonian and Brothers' library amount to 16,000, and those of the professional schools to 10,000, in all, 86,000 volumes.

THE MUSEUM.

Geological department.—Very considerable additions to the geological department of the museum have been made during the past year, and a large proportion of these additions have been remains of fossil vertebrates, to which particular attention has been directed.

Continued efforts have been made to increase the collection in osteology, more especially as an aid to the study of vertebrate remains. Several hundred skeletons of recent animals, most of them carefully identified, have been obtained during the year, so that ample facilities are now afforded for the study of comparative osteology.

The most important and valuable additions to the geological collection during the past year have been obtained from the cretaceous deposits of the West. A very valuable portion of them was obtained by a small party which left New Haven, in October last, under the charge of the curator, and spent about two months in Kansas, Colorado, and Wyoming, collecting fossil vertebrates.

A very considerable and expensive collection, mostly of foreign vertebrate fossils, has been obtained from Europe, and a large collection of bones of extinct birds from New Zealand. Other important additions have been received.

Department of archeology and ethnology.—The acquisitions in this department have been large and important during the past year, although no opportunity is yet afforded for making them available for study. The most valuable addition has been a large collection of antiquities, mostly from Central America, which was made by M. de Zeltner, consul of France, during his long residence at Panama. This collection contains probably the finest series of gold images and pottery from Chiriqui ever brought together, and is also especially rich in stone implements. The entire collection was purchased in Paris by Professor Marsh and presented to this department.

Another collection of much interest is a large series of native skulls from the Sandwich Islands, presented by Hon. J. S. Christie, jr., vice-consul of the United States at Honolulu.

Large collections of stone implements, especially from the West, have also been received.

Zoological department.—During the past year the principal part of the special work in zoology has been devoted to the marine animals of New England waters.

The osteological collection has also been greatly enriched, mainly through the very liberal donations made by Professor Marsh, who has

not only purchased rare and valuable specimens, both mounted and unmounted, but has employed men to prepare a large number of skeletons from fresh specimens.

School of Art.—The east of the gates of the Baptistery, at Florence, has been erected at the west end of the north gallery, and occupies a space of about 14 by 22 feet. The total expense of the purchase and placing of this beautiful work of art amounts to \$1,049.60, which amount was made up, by donations and other means, as follows:

Mr. Edward E. Salisbury, \$235; Mr. Henry Farnam, \$100; Mr. R. S. Fellowes, \$50; Mr. Daniel C. Eaton, (S. S. S.,) \$25; Rev. E. L. Heermance, \$24; through lesser subscriptions and other sources, \$334; proceeds of Professor Weir's lectures, \$281.50; by which means this expense was fully met.

NEW BUILDING OF THE SHEFFIELD SCIENTIFIC SCHOOL.

The most important addition to the resources of this school made during the year is the construction and equipment of a new building for recitation- and lecture-rooms, collections, and drawing-rooms. This is situated on Prospect street, directly north of the old Sheffield Hall, and has a front of 76 and a depth of 84 feet. It is built of brick, and contains substantially five stories. Besides a large lecture-room on the main story, capable of seating about 400 persons, and a large room for drawing, in the fourth story, it has 14 commodious recitation- and lecture-rooms, four private studies for professors, and seven private rooms for instructors. The building is warmed throughout by steam-heated air, and is furnished in the most complete and satisfactory manner. The whole is the gift of the munificent patron of the school, Mr. Joseph E. Sheffield, and was begun entirely at his own suggestion. Its completion enables the school, for the first time in several years, to carry on its work of instruction wholly on its own ground. The building is specially designated as North Sheffield Hall.

Two new dormitories have also been added to the accommodations for the students of the university, and a new hospital for the medical department is drawing near completion.

PUBLICATIONS.

The annual catalogue, instruction for graduates and special students, Yale College in 1873, and obituary record of graduates, published by a committee of the alumni.

TRINITY COLLEGE, HARTFORD.

PRELIMINARY EXERCISES.

On Sunday morning, June 29, the holy communion was administered in the college-chapel, and the baccalaureate-sermon preached by

President Jackson. Bishop Williams read the closing prayers, and pronounced the benediction.

COLLEGE-CONVOCAATION.

On Wednesday morning the house of convocation assembled in the chapel, and after religious services there, adjourned to the cabinet, where the business-meeting was held. The dean, Rev. John A. Paddock, D. D., called the meeting to order and made a short address.

Professor Pyncheon reported that the alumni-library fund now amounts to \$2,925. The committee having that matter in hand was continued.

The Rev. P. L. Shepard, A. M., of the class of 1852, and John Day Ferguson, A. M., of the class of 1851, were nominated junior fellows, to hold office for three years.

It was voted to instruct the standing committee to consider hereafter no application for admission to an *ad eundem* degree unless it shall have been presented in writing to the chairman of the committee at least two weeks before commencement.

The convocation met again in the afternoon and resolved to appoint a committee of the corporation as to some method by which the alumni may have a voice in the nomination and election of new trustees.

COMMENCEMENT PROPER.

The exercises of the commencement were held on Thursday morning, at the Opera House, when seventeen graduates of the class of 1873 received the degree of A. B. in course, and fifteen of that of 1870 the degree of A. M. in course. Two graduates of the Scientific School received that of Sc. B.

HONORARY DEGREES.

One gentleman, Rev. D. B. Knickerbocker, A. M., of the class of 1853, received the honorary degree of D. D. ; two, Rev. William Cooper Mead, D. D., and Professor John C. Draper, of the University of New York, that of LL. D. ; and one, Mr. Nathan B. Warren, Mus. B., that of Doctor of Music.

ADDITIONAL COURSE CONTEMPLATED.

Some plan of post-graduate study, it is reported, will probably be adopted during the coming year.

NEW PROFESSORS APPOINTED.

The chair of mathematics and natural philosophy has been divided. Professor Brocklesby has become professor of natural philosophy and astronomy, and Assistant Professor Hart has become professor of mathematics.

BENEFACTIONS.

The legacy of Mr. Chester Adams, amounting to about \$60,000, has been paid into the treasury, as has also that of Mr. Jedediah Huntington, of \$5,000.

LIBRARY.

The increase of the library during the year has been, from gifts in books, about 100 volumes; from gifts in pamphlets, about 200.

NEW BUILDINGS.

No new buildings have been erected during the year, the present college-site having been sold to the city-authorities for the purposes of a public park. With the money thus secured an entirely new set of buildings for the college is to be put up in a commanding location.

Part of Brownell Hall has been destroyed, in order to make room for the new State-house. Plans have been in part agreed upon for the new buildings, the sketches being from Mr. Burges, the distinguished architect of London. The new college-park, which will contain about forty acres, is to be laid out by Mr. Fred. Law Olmsted. The college will be removed to its new site in 1877. Until that time its work is carried on, with every needed facility, in its present location.

PUBLICATIONS.

A new edition of Professor Pyncheon's *Chemical Physics* has been published by Van Nostrand, of New York.

The only official publications by the college have been its annual catalogue, commencement and prize version programmes, and examination-papers.

The alumni published an oration of Hon. Stewart L. Woodford, and the students a monthly paper, *The Tablet*, and an annual, *The Iry*.

WESLEYAN UNIVERSITY, MIDDLETOWN.

CHANGE OF TIME FOR COMMENCEMENT.

In common with most eastern colleges, the Wesleyan University placed its commencement-week this year nearly a month earlier than heretofore, shortening the spring and fall recesses, thus closing the college during the excessive summer-heat and securing a three-months' vacation, with a full academic year.

SHOW OF PHYSICAL CULTURE.

On Tuesday came the gymnastic exhibition, which is becoming an important feature of commencement-week, and which showed on the part of the exhibitors a high degree of physical training. The performances

here consisted of exercises upon the parallel bars, feats in the ring, the horizontal bar, trapeze, leapings, and other kindred means of developing skill and strength.

A boat-race between the university and freshman crews occurred on Wednesday, again displaying the physical side of the college-training, and proving, from the amount of muscular power exhibited, that outdoor exercises have a fair proportion of attention given them. A new boat-house, costing \$1,200, is one evidence of the interest displayed in these.

COMMENCEMENT.

The regular commencement-exercises, consisting of a procession, prayer, music, addresses by members of the graduating class, and conferring of degrees, came in order on Thursday, June 26, under the direction of President Cummings. Fourteen members of the class engaged in these.

At the close of the addresses the degree of A. B. was conferred on thirty-four members of the graduating class, and that of A. M., in course, on thirty-one in the class of three years preceding.

HONORARY DEGREES.

The honorary degree of A. M. was bestowed on Mr. Otis T. Hall and the Revs. Varnum A. Cooper, Thomas D. Littlewood, and Richard Harcourt—4.

That of D. D. was given to the Rev. Messrs. Albert S. Hunt, Orlando H. Jasper, George F. Kettle, Andrew McKeown, and James Pike—5.

NEW DEPARTMENTS.

Two new departments, one of modern languages and one of analytical chemistry, have been added during the year, and it is proposed to have two scientific courses, of four years each, running parallel with the academic course.

NEW PROFESSORS.

To fill the new chair of modern languages Professor Prentice has been transferred from the Olin professorship of rhetoric and English literature, and Professor C. T. Winchester to that of the department thus vacated. Instruction in analytical chemistry will be provided.

Professors Van Benschoten and Van Vleck were unanimously re-elected to their respective chairs, the time for which they were previously appointed having expired.

Professor John Johnson, LL. D., resigned the Fisk professorship of natural science, and was elected emeritus professor, on a salary of \$1,500.

ENDOWMENT OF NEW PROFESSORSHIPS.

No permanent endowment for the two new professorships created has

yet been provided, but it is said that the needful funds will be soon forthcoming. The salaries for the new professors were fixed at \$2,500.

CHANGE IN COURSE OF STUDIES.

French and German are henceforth to be elective in the sophomore year. In the junior, in addition to previous elective studies, are to come German, Latin, physics, and physical geography. To the senior electives were added mathematics, practical chemistry, practical work in biology and geology, Greek, general philology, natural theology, evidences of Christianity, psychology, and philosophy.

The two four-year courses constituted will be distinguished by one of them containing Latin, the graduates in which will receive the degree of Ph. B.; the other being without Latin, and securing its graduates the degree of Sc. B.

CO-EDUCATION OF THE SEXES.

The influence of this has been watched with interest during the college-year. Four female students have kept along with the freshman-class and are now sophomores. Of these, two are said to be fine scholars, while all have stood well the strain upon their powers. The opposition to their presence, however, though vented in no insults to them, has been so strong that several male students have left, giving as a reason, in whole or in part, their antipathy to female classmates, and, possibly on this account, no further applications for admission of female students have been received.

LEGACIES AND BENEFACTIONS.

No legacies have been received during the year past; but at the meeting of the trustees a committee was appointed to investigate the claims of the university to the possession of certain moneys devised by the late Isaac Rich, esq.

The benefactions, amounting to about \$7,500, have been mainly individual subscriptions, ranging from \$100 to \$1,000, for increase of salaries.

SALARIES OF OFFICERS.

In the financial exhibit of the college, one professor is represented as receiving \$1,000; two, \$1,200; two more, \$1,500; the remaining six, \$2,500 each, and the president \$3,000.

PROPERTY OF THE INSTITUTION.

The property held, including buildings and apparatus, is estimated at \$881,056.88, less \$104,851.58 of indebtedness to the alumni-library fund and other creditors.

The expenses are set down at \$64,774.63; the receipts at the same amount.

SCHOLARSHIP FOUNDED SINCE LAST COMMENCEMENT.

One, for excellence in the Greek. The endowment for this is \$150 per annum, given by Colonel Watson C. Squire, of New York City.

LIBRARY.

The increase of the library during the year has amounted to 1,508 volumes, 578 volumes being received in gifts, together with 275 pamphlets. No moneyed gifts have come in for this increase. Present number of volumes, 24,258.

MUSEUM.

The number of specimens added to the museum in the past year has been about 1,800, of which the greater part were gifts. In money, \$100 has been received.

PUBLICATIONS.

The only official publications by the college have been the annual catalogue, programme, and financial statements.

The *Alumni Record* for the year, originally compiled by Orange Judd, has been enlarged by the association, and forms a volume of 308 pages. The names of 1,028 graduates of the institution are enrolled, including those of the present graduating class.

NEW YORK.

UNIVERSITY OF NEW YORK, NEW YORK.

The commencement of this important institution was held on Thursday, June 19, exciting the interest that usually attaches to the acts of great educational corporations in large cities. The degrees conferred were as follows :

DEGREES IN COURSE.

A. B., 6; A. M., 4; Sc. B., 5; C. E. 2; Sc. M. 1; LL. B., 26; M. D., 74.

All these degrees mean something, as the tests have been much severer than in past years, comprising both written and oral exercises, and the result shows a larger ratio of deficiency than usual, about 10 per cent. of the students having been dropped and about the same proportion conditioned.

HONORARY DEGREES.

A. M.: name not given—1; Ph. D.: Rev. A. Danker, Little Falls, New York—1; D. D.: Rev. H. S. Carpenter, California; Rev. S. W. Roe, Schoharie, New York; Rev. W. H. Ward, New York; Rev. A. W. Simpson, Derby, England; Rev. Wm. Arnot, Edinburgh, Scotland—5. LL. D.: Professor J. Foster, Union University, Schenectady, New York—1.

At a meeting of the regents, held July 29, the following additional degrees were conferred: Ph. D.: President J. Allen, Alfred University; A. Flack, A. M., President of Claverack Academy, New York—2; D. C. L.: Hon. Wm. B. Lawrence, Newport, Rhode Island—1.

INCREASE OR CHANGES.

No increase or change in any department appears from any official source, the 37 professors, with their 9 assistants, working on in the ways which they have found most efficient in the past; though a newspaper report states that a reorganization of the scientific department has taken place, and that considerable additions have been made to the means of instruction.

FREE LECTURES.

A commendable feature of the year has been the delivery of a course of free lectures, during the winter of 1872-'73, in the university-chapel, on Thursday evenings, by the president and professors, in the department of arts and science. These were all on subjects of much practical and historic interest, and must have been an important contribution to the

cause of popular education in the city. The example is a good one, and might be imitated with advantage by other collegiate institutions in our towns, the large corps of highly educated men connected with them having ample stores of interesting information at command, which might go far to fill the minds and vivify the intellects of the communities by which they are surrounded.

PUBLICATIONS.

By President Crosby, *Thoughts on the Decalogue*, 160 pp., 12°.

By the college, the annual catalogue.

COLLEGE OF THE CITY OF NEW YORK, NEW YORK.

COMMENCEMENT.

At the commencement of the City College, held in the Academy of Music, on Thursday evening, June 26, the following degrees in course were bestowed upon the graduates, after the usual addresses: A. B., 14; A. M., 2; Sc. B., 22. At the same time, Arthur Beach, A. B., and Henry Stoiber, were accepted as fellows of the college. A communication received from the board of supervisors stated that \$125,000 had been appropriated to the college for the ensuing year.

The result of the annual examinations of this college, which closed on Monday, the 23d, was as follows, according to the papers: Of the 41 juniors, 37 will be advanced to the senior class; out of the sophomore class, numbering 54, 44 will be promoted; and of the 119 freshmen, 40 were found deficient, leaving 79 to become sophomores. The number of deficient freshmen is stated to be less, proportionately, than in former years. Five hundred and fifty-nine applied for admission at the recent examination, of whom 461 were accepted. In the introductory department, 124 passed their examinations satisfactorily in the collegiate course, and fifty were rejected, some of whom will be permitted to fall back a year and try again; and in the commercial, 61 were found proficient, while 80 failed.

COLLEGE OF ST. FRANCIS XAVIER, NEW YORK.

COMMENCEMENT.

A peculiarity of this institution, which is a day-college, conducted by Fathers of the Society of Jesus, is, that besides its preparatory, commercial, grammar, and undergraduate departments, it has a post-graduate course, which occupies a year, and leads to the degree of A. M. The method of instruction in this is by lectures once a day for an hour on ethics, natural law, and physical science, with experiments. In

accordance with this system, at the commencement, held June 23, after discourses from three students, an award of medals and prizes, and an address to the members of the graduating classes, the degrees conferred in course were: A. M., on members of the post-graduate class, 8; A. B., on graduating students of the college senior class, 13.

ST. JOHN'S COLLEGE, FORDHAM.

Like St. Francis Xavier College, in New York, St. John's, which adorns a pleasant suburb of the city, a few miles above Harlem River, is under the control of the Society of Jesus, long noted for its devotion to the interests of education, in connection with the Roman Catholic Church. But while the former is a day-college, dismissing its pupils after study-hours to their homes, the latter is a boarding-college, retaining them steadily beneath its influence. Its commencement is held on the last Wednesday in June, this year the 25th.

COMMENCEMENT.

With a judicious regard to picturesque effect, the exercises on this occasion, as on others, were held beneath the fine old trees upon the lawn, where a carpeted and canopied platform had been erected for the graduating class, the officers of the college, and specially distinguished visitors. On seats arranged upon the slope in front of this, the friends of the college and its students were arranged, while immediately beneath it, upon chairs, sat the undergraduates with their preceptors. A very pleasing *tout ensemble* was thus secured, more animating and attractive than when an audience is crowded into hall or chapel in the hot days near the summer-solstice.

ADDRESSES AND DEGREES.

The addresses by the students were also judiciously arranged upon a system, the general theme being "Our age," and one student discoursing on "its history;" another on "its science;" a third, on "its poetry," and a fourth, on "its philosophy." These addresses being ended, and an address to the students of the graduating class delivered by the Rev. Dr. McGlynn on the errors and evils they would have to battle with on their way through life, the following degrees in course were granted: A. B., 9; A. M., 4. No further information furnished.

COLUMBIA COLLEGE, NEW YORK.

The one hundred and nineteenth annual commencement of this oldest of New York colleges was held in the Academy of Music on Wednesday, June 25. Prayer having been offered by the Rev. William D. Walker, acting chaplain, the prizes were announced and the diplomas

bestowed by President Barnard. The trustees' prize of \$300 for excellence in Greek came to F. Drisler, of the junior class, son of the distinguished professor of that language in the college, and the alumni-prize (to the most faithful and deserving student of the graduating class) to Fred. Remsen Hatton.

DEGREES IN COURSE.

A. B., 20; A. M., 17; Ph. B., 2; Min. Eng., 5; LL. B., 138; M. D., not reported.

HONORARY DEGREES.

A. M.: Aaron Bernstein, missionary in Palestine, Frederick Stengel, and William H. Chandler—3; S. T. D.: Right Rev. John Gottlieb Auer, missionary bishop of Cape Palmas, Africa, Rev. George Beckett, Rev. James Stephenson, and Rev. William Reed Huntington—4; LL. D.: Oliver Walcott Gibbs, Henry Augustus Homes, and Professor Benj. D. Silliman—3.

For further information see page 91.

ST. STEPHEN'S COLLEGE, ANANDALE.

This interesting Protestant Episcopal institution, in which all the students are communicants of the Church, and all looking forward to the sacred ministry, held its twelfth annual commencement on Thursday, July 3. From lack of full accommodations within doors, the exercises were held on the wooded lawn before the college, after the chanting of a litany-service in the chapel. The salutatory, in Latin, was by F. P. Davenport, of Saratoga, designated as *secundus* in respect of scholarship, and the valedictory address by William M. Jefferis, of Delaware, *primus*, who also bore away the McVickar prize for elocution.

DEGREES IN COURSE.

Fourteen students received the degree of A. B., nearly all of whom at once became candidates for holy orders.

No honorary degrees are reported as having been bestowed.

NEW BUILDING.

A useful addition to the college is a new dining-hall, the fruit of a bequest from a poor woman, Abigail Preston, for many years a servant in the family of the late John A. Aspinwall, esq. In this building the commencement-dinner was spread, at which about 200 persons found accommodation.

A pleasant incident of the dinner was the presentation to Warden Fairbairn of an address of congratulation and confidence from the faculty, read by Professor Oliver, and of another of kindred purport from the trustees, read by Bishop Potter, and accompanied with a gift of \$1,500 as a recognition of his faithful and successful administration.

As may be inferred from the above, the college prospers. Its pleas-

ant position, delightful grounds, pure religious influences, and popular president, bring annually many more applicants for admission than can be accommodated. Twenty to thirty have already been denied admission for the next term, for want of room.

CHANGE OF PROFESSOR.

The college loses from this date the valuable services of Professor Oliver, who has held the chair of Greek and Hebrew for some time, he having been elected professor of biblical interpretation in the General Theological Seminary of the Protestant Episcopal Church, in New York, about a third of the students in which have been his former pupils at Anandale.

RUTGERS FEMALE COLLEGE, NEW YORK.

The commencement-exercises of this college, which is designed to furnish a complete course of classical and scientific instruction for women, opened on Sunday, June 15, with the baccalaureate-sermon in the chapel of the college, by President Samson, his theme being "Woman's moral support to man."

ADDRESS BEFORE THE ALUMNÆ.

On Wednesday Miss Carrie A. McAlister, A. M., delivered the annual address before the Association of the Alumnæ, on the "Relation of women to the welfare of the state." The only way to stem the downward current in our political affairs is for all cultured and Christian women to set themselves against extravagance and luxury, and to give the example of republican simplicity in manners and life.

COMMENCEMENT-DAY.

After the president's levee, on Thursday, the exercises of the day were held in the Church of the Disciples, on Madison Avenue. Miss Helen C. Kingsley pronounced the salutatory in Latin. Miss Lula V. Wakefield delivered the valedictory.

DEGREES.

The degree of *Baccalaurea Artium* was conferred on seven, and that of *Baccalaurea Literarum* on one of the members of the graduating class. Special honors were awarded to two young ladies for excellence in studies in the art-school.

The only additions to the library were ten books and six pamphlets, by gift.

MUSEUM.

The gifts to the museum amounted to one hundred and seventy-eight specimens in zoology, geology, and mineralogy, besides one case of insects.

PUBLICATIONS.

Circular of Rutgers Female College for 1872-73, 12^o., pp. 12; programme of junior exhibition, 1873; programme of *alumnæ* and class-day, 1873; programme of commencement, 1873.

DEATH OF BENEFACTORS.

The college mourns the loss of its chief early benefactor in the recent death of Dr. I. Ferris, late chancellor of the University of the City of New York. Through his instrumentality the institute out of which the college has grown had its origin and obtained its charter in 1838. When in 1862 it site was removed to its present location on Fifth avenue, and when again in 1868 it obtained its collegiate charter and its title to confer all the literary degrees authorized by the State, Dr. Ferris still watched its progress with special interest.

PROGRESS DURING THE YEAR.

Rutgers College has made progress during the past year not only in public appreciation of its aims, but also in power to attain them. The effort to raise the standard of scholarship meets with a hearty response both from patrons and pupils.

ENDOWMENT.

The *alumnæ* of the college have recently organized an association looking to aid in its endowment.

VASSAR COLLEGE, POUGHKEEPSIE.

PRELIMINARY.

The commencement-exercises of this college, which has become so widely and favorably known for what it has accomplished in the field of the higher education of women, were preceded on Tuesday, June 24th, by

THE MEETING OF THE TRUSTEES.

At this meeting Bishop Huntington, of the diocese of Syracuse, Professor Howard Crosby, of New York, and R. J. White were elected to the board.

An appropriation of \$1,000 was made for the purchase of a collection of photographs illustrating the history of painting, sculpture, and architecture from the earliest times to the present. Mr. Winslow, of Poughkeepsie, has given another thousand dollars for the same purpose. These photographs are to be selected by Professor Lubke, of Stuttgart, Germany, and will be under the charge of Professor Van Inger, the resident professor of drawing and painting.

COMMENCEMENT-DAY.

Wednesday, June 25, was commencement-day at Vassar. At 10 a. m. a large company of visitors assembled in the college-chapel, which was tastefully decorated with evergreens and flowers, to listen to the speaking by the ladies of the graduating class. On the platform with President Raymond were seated many distinguished educators, eminent professional and literary gentlemen, and several ladies of the society of the Sorosis. The programme consisted of orations and essays by ten ladies of the class, interspersed with excellent musical selections. Among the orations, the most noticeable was one on "The theory of perturbations," by Miss E. H. Brewer. "The literature of the critical rather than creative," a finely-written essay, by Miss Blanche Wilder, of Brooklyn, and "The political influence of Uncle Tom's Cabin," by Miss Gerrish, of Portland, Maine, and the valedictory oration, by Miss Hiscock. This latter lady's record in college is of the highest order.

DEGREES CONFERRED.

At the conclusion of the speaking, the baccalaureate-degree of A. B. was conferred on forty seven lady-graduates of the year—the largest class yet sent forth from the college. Two ladies received the degree of A. M. in course.

BENEFACTIONS.

A permanent scholarship of \$6,000 was presented during the year by Alanson J. Fox, esq., of Painted Post, New York.

LIBRARY.

The number of volumes added during the year was 842, of which 35 were by gift. The sum of \$1,500 was received from the Vassar library-fund.

MUSEUM.

Valuable contributions of specimens were received from the Smithsonian Institution, and from the United States fish-commission. Other gifts were an oil painting, valued at \$450, and 150 large photographs of works of art. The sum of \$1,500 was received from the Vassar art and cabinet fund.

NEW BUILDINGS.

A new laundry, costing \$13,609.83. The sum of \$22,332.63 was expended in enlarging the refectory.

PUBLICATIONS.

Liberal Education of Women, by Professor James Orton, 12^o., pp. 328, A. S. Barnes & Co., New York; *Vassar College: A Sketch of its Aims, Resources, and Methods*, by President Raymond, 8^o., pp. 78, S.

W. Green, New York; *Vassar College Students' Manual*, Eighth Annual Catalogue of the Officers and Students of Vassar College, programmes of *soirées musicales*, April 9, May 28, and June 23; Founder's Day, April 29; semi-annual examinations: 1st semester, February 6, 7; 2d semester, June 19, 20; commencement, June 25.

FINANCES.

The total amount of unproductive property in real-estate amounts to \$440,308.48, and its total personal property, in furniture and fixtures, library, art-gallery, apparatus of instruction, mathematics and physics, astronomy, cabinets of natural history, Giraud cabinet of birds, &c., amounts to \$149,457.52; which makes the aggregate amount of its unproductive property \$594,576.80. Its aggregate amount of productive property reaches \$281,000. Thus far, the salaries of instructors and others, with all the necessary expenses of a domestic establishment of more than five hundred persons, have been defrayed from the only source of revenue available, the students' fees for board and tuition.

ENTRANCE-EXAMINATIONS.

Year by year the examinations for admission to the college are made more extensive and exacting. Indeed, the recent severity of them has notably diminished the numbers in the preparatory departments. The more thorough preparation in Latin and mathematics required within the last three years has had the effect to raise the age of admission a full year.

UNION COLLEGE, SCHENECTADY.

The institution known for seventy-eight years past by the above familiar title will have to be recognized hereafter by the more novel one of the Union University of the State of New York, its young and energetic president having succeeded in incorporating with it, under a new charter from the legislature, the Albany Medical and Law Schools and the noble Dudley Observatory. This last will give it, in connection with its previous School of Science, a well-provided scientific philosophical department; while the Medical and Law Schools, united with the academical department, leave only a School of Theology to be appended to form a complete university-curriculum. This, though instruction in some things belonging to a theologic course is given by Professor Tayler Lewis, is not perhaps likely to be added in its fullness, one feature of the changes recently adopted being a detachment from religious denominational connection. How well this portion of the change may work has yet to be determined. Until Cornell, all our great eastern educational foundations, with only the exception of the Virginia University, have flourished largely through the oversight and interest of some influential church-organiza-

tion. The one exception has enjoyed, instead, the fostering care of the legislature of the State, which may or may not be given in the case of Union. The friends of the new president are lending him, however, a generous co-operation, and all connected with the old organization seem bent on aiding heartily his efforts to build on the foundations laid by his grandfather a structure worthy of the wider name assumed. Gifts flow in from many quarters. New buildings are put up. A warm enthusiasm is aroused. And if large interest in the surrounding population and aid from many influential people in the State can make success a certainty, the future success of the new Union University is sure.

PROCEEDINGS OF THE ALUMNI.

At a meeting of the alumni in advance of the late commencement, one paper states that the members of the society pledged themselves to raise \$30,000 to endow an adjunct classical professorship, which should give some measure of relief to the senior professors in that line. Another paper makes the pledge a resolution to raise \$60,000 for the establishment of two adjunct professorships. In the absence of distinct official information, these statements are given for what they may be worth.

COMMENCEMENT.

At the commencement, which was held in the First Reformed Church at Schenectady, the various prizes by which excellence in various departments is now stimulated were distributed by President Potter. Degrees in course were then conferred upon the members of the graduating class as follows: A. B., 20; A. M., 12; C. E., 5. These are additional to fifty-nine diplomas given on May 15, at the commencement of the law-school.

HONORARY DEGREES.

LL. D.: Governor John A. Dix, Ex-Governor Horatio Seymour, Professor Isaac Edwards, Albany; Hon. Thomas Allen, Saint Louis; Professor C. F. Chandler, New York; Hon. Lewis H. Morgan, Rochester; Rev. Dr. I. W. Nevin, Lancaster, Pennsylvania—7.

D. D.: Rev. John Vaughan Lewis, Washington; Rev. Jacob Fry, Reading, Pennsylvania—2.

A. M.: Rev. James Pitcher, Otsego County, New York; E. D. Palmer, Albany; William I. Thorn, Poughkeepsie; Captain James F. Gregory, United States Army—4.

BENEFACTIONS.

The gifts of money received since the commencement of 1872 have been, from James Brown, esq., New York, \$10,000; R. M. Blatchford, esq., New York, \$10,000; Miss C. L. Wolf, New York, \$5,000; Thomas H. Powers, esq., Philadelphia, \$3,000; William Tracy and S. B. Brownell, esqs., New York, each \$1,000; D. Campbell, esq., New York, \$500; sundry other individuals, \$3,000—in all \$33,500. The amount of the scholarship-fund is \$60,000. Donors, State of New York and E. Nott, D. D.

LIBRARY.

Accessions to library during the year: by purchase, 162 "articles;" from gifts, 38 volumes; in money, \$20,000.

MUSEUM.

The department of natural history has been increased by considerable collections of marine animals made in the summer vacation by the adjunct professor of natural history; by a large number of fossil sharks' teeth, from the president of the college; by a series of crania of Canadian carnivora and rodentia from Rev. A. H. Whiting; by a collection of fossils from rocks near Troy, New York, from S. W. Ford, esq.; and by a number of valuable specimens purchased in Paris.

NEW BUILDINGS.

A new dwelling-house for the president, the fruit of the liberality of Mr. J. W. Fuller, of Troy, cost \$8,000; another, donor's name not given, cost, \$6,000; a gymnasium, cost, \$3,000; Alumni Hall, \$40,000.

PUBLICATIONS.

Annual circular of Civil-Engineering School; annual reports of president and treasurer; *New Version of the Book of Job*, by Professor Tayler Lewis, with an introduction on the theism of the book, and addenda of dissertations on the most difficult questions connected with it; also articles by the same professor in Johnson's *Universal Cyclopaedia* and the *Andover Bibliotheca Sacra*.

MADISON UNIVERSITY, HAMILTON.

SUNDAY-EXERCISES.

The commencement-week at Madison was opened on Sunday, June 15, with a sermon to the graduates by President Dodge in the morning, and others before the societies by the Rev. W. H. Maynard, of Auburn, and Professor Hovey, of Newton Theological Seminary, Massachusetts, in the afternoon and evening. Dr. Hovey's experience as an educator of young men for the ministry well qualified him for giving judicious counsel on the method and duty of properly preparing young men for the pastoral office. One of his leading ideas was that in addition to the most thorough discipline of young men in the schools, they must have an excellent knowledge of human nature, and an unquestioned understanding of the Word of God, to enable them to be successful ministers of Christ. The characteristics of the age and generation demanded the highest culture, religiously and intellectually, for the great work of those who were designed for leaders and teachers in the churches and community.

SCHOOL OF THEOLOGY.

On Tuesday morning the Theological Seminary held its anniversary, when nine students delivered graduating addresses, and received the diploma of the school.

NEW DELTA-UPSILON HALL.

At the reception of the Delta-Upsilon Society on Tuesday afternoon the excellent accommodations of this association were displayed. It has a spacious hall, with furniture of oak and black walnut, and a fine organ, for society-meetings; while an inviting reading-room, on the tables of which are all the leading reviews and magazines of the United States and Europe, furnishes pleasant literary entertainment. Such accessories of college-education are important aids to culture.

COMMENCEMENT-DAY.

A brilliant day made doubly pleasant the always interesting exercises of commencement, which, after a procession of considerable length, were held in the large chapel of Alumni Hall, on University Hill. After prayer by President Dodge, thirty-eight students (none of whom are marked "excused") delivered orations, averaging from five to seven minutes each, a fact which argues a large confidence on the part of the authorities in the patient attention of the audience. One of these speeches of commencement-day derived a special interest from its preparation and delivery by a converted Karen, and from the hope and enthusiasm manifested in it with reference to the spread of the Gospel in the East. There have been from fifteen to twenty of these converts from the eastern heathenism educated at this university, all of whom have returned to their own country to aid in the extension to their people of the light which has shined in upon themselves.

DEGREES IN COURSE.

Thirty-six graduates of the collegiate department received the degree of A. B. in course, seven that of A. M. in course, and six that of Sc. B.

HONORARY DEGREES.

A. M.: Rev. J. J. Brouner, of New York, and Hervey E. Eaton, of Syracuse—2. D. D.: Rev. Lyman Wright, Binghamton, New York; Rev. J. V. E. Covey, president of Concrete College, Texas; and Rev. W. H. Maynard, Auburn, New York—3.

NEW PROFESSOR.

Rev. David Weston, called to the chair of church-history in the Theological Seminary and ancient history in the college.

BENEFACTIONS.

From John B. Trevor, of New York.....	\$13, 000
From James B. Colgate, of New York.....	17, 000
	\$30, 000

This is toward an endowment of "Colgate Academy."

NEW BUILDING.

"Colgate Hall," erected at a cost of \$50,000 by James B. Colgate, of New York, as a memorial of his deceased parents, and for the academic department of the university.

UNIVERSITY OF ROCHESTER, ROCHESTER.

SUNDAY-SERMON.

Preliminary to commencement-week, the annual sermon before the Young Men's Christian Association of the university was preached on Sunday evening, June 29, by Rev. Charles Wood, of Brooklyn, his subject being "The perpetuity of the Christian faith," in opposition to Holmes's assertion to the Tyndall banqueters that "Faith is bankrupt, and her accounts are under strict examination, to determine what assets remain to be distributed among the impoverished souls that are her creditors."

MEETING OF ALUMNI.

The business-meeting of the alumni in the morning of Tuesday, July 1, was occupied mainly with plans for raising an endowment. But at their meeting in the evening an important oration in defense of classical culture was delivered by Mr. D. S. Benjamin, of Rochester. He mentioned Dr. Youmans's book, "*The Culture demanded by Modern Life*," at the outset, in order to use its salient points, as he said, "as pegs on which to hang a few thoughts of our own." Mr. Benjamin zealously dissented from the opinion that the culture demanded by modern times differed from that for any other time, like a coat or bonnet; for culture is the symmetrical development of the man—what the Latins meant by *virtus*, perfect manhood. Mr. Benjamin quoted Hamilton and Cicero and Plato and many other writers on this point, this sentence from Hamilton's writings being very much to the purpose: "A liberal education is an education in which the individual is cultivated, not as an instrument toward some ulterior end, but as an end to himself alone; in other words, an education in which his absolute perfection as a man, and not merely his relative dexterity as a professional man, is the scope immediately in view." The speaker then went on to deny that "immense advances," such as are claimed by the advocates of a changed system, have been made in latter days by the human mind. The

assertion that the inventors of the classical system knew little or nothing of mental science, and lived in too remote an age to have understood it, was taken up, and its falsity shown by a historical review of the beginnings of that system. It was not made in the Dark Ages. Latin was hardly understood by the priests and monks of the latter part of that period; but when the understanding of the classical authors had almost wholly died out, then the study of the ancient models was revived, at nearly 1100 A. D. The details of the method of study then adopted were shown to be such as they are, and have been since then, Greek, Latin, algebra, and Euclid; though the classics, being the first adopted, gave their name to the whole. Mr. Benjamin then went on to show that the great revival in all cultured life, and even the Reformation itself, as to its human source, had their causes in the increased mental activity caused by the adoption of the classical system of study. Further, the speaker claimed that if this system appears imperfect in its results, it should be inquired whether the fault be not in the teacher or elsewhere more than the system. If an A. B. cannot read Latin, Greek, rocks, stars, and flowers with equal facility, he has either been imperfectly taught or is incorrigibly lazy, or has a defect in his upper works that no culture can rectify. And, finally, Mr. Benjamin went into an extended and able argument to show that the study of the classics, while it does require considerable memorizing, certainly calls into the best exercise the highest or reasoning faculty of the mind. After the primitive words of the Latin (whose superiority over the English was shown at length) have been learned by the student, he is then made to bring the various derivatives of these words into comparison with themselves and with other words, to comprehend the history of a given word—in fine, to balance probabilities, the highest effort of human reason.

MEETING OF TRUSTEES.

At the annual meeting of the trustees one important piece of practical work was done, in raising the salaries of three professors by \$400 addition, and those of two others by \$250 each.

COMMENCEMENT-ADDRESSES.

On commencement-day twenty graduates delivered addresses, two others to whom the duty had been assigned being excused at their own request.

DEGREES IN COURSE.

A. B., 20; A. M., 12; Sc. B., 2; Sc. M., 1.

HONORARY DEGREES.

D. D.: Professor William C. Wilkinson, Rochester Theological Seminary; Professor David Weston, Hamilton Theological Seminary; Rev. John Stevens, Denison University, Ohio—3.

BENEFACTIONS.

Portraits of Robert and William Kelley, friends and benefactors of the university, valued at \$2,000.

Philosophical apparatus for scientific department, valued at \$2,000.

INCREASE OF LIBRARY.

About 500 volumes during the year past.

NEW BUILDING.

A large new building for the library and museum is in process of erection, meant to be wholly fire-proof, and estimated to cost \$100,000.

STANDING OF THE UNIVERSITY.

Of the standing of Rochester University among the schools of the State some estimate may be formed from the fact that, of the eight normal-schools in the State, four are said to be presided over by its graduates.

 CORNELL UNIVERSITY, ITHACA.

Founded in 1868, Cornell at its fifth annual commencement stands third in rank among our universities, as respects the number of graduates from its schools, Harvard and Yale alone exceeding it. Nor is this rank apparently obtained by any weak indulgence. As far as can be ascertained, the examinations for degrees appear to be quite searching and exhaustive. "A set of questions embracing the leading points of any subject taught during the term is prepared by each professor for each class. These questions are printed at the university-press, the superintendent of the office being responsible for their privacy. Every class is divided into sections of not more than twenty persons; each section is then placed in charge of a professor or assistant professor, who sees that its members are seated in one of the examination-rooms at such distances from each other that they can hold no intercourse, and that they are provided with writing-materials. The printed papers or sets of questions are then given them, and a time, varying with the length of the paper, but ranging from one to three hours, is allowed in which to prepare and write out the answers. Subsequently these replies of the student are carefully examined by the professor, and a list of those who have successfully passed the examination is posted on the university bulletin-board. Those who fail are required to attend the lecturer upon the subject a second time." Under such a system it is highly creditable to the university that 98 students were found worthy of degrees, and 2 of licenses that are equivalent to degrees. The class for graduation had been composed of 99; but of these 7 failed in the final examination. Their place, however,

was more than made up by the post-graduate students who came forward for and won degrees and licenses attesting their success in study, so that of graduates honored as above declared, the full number of 100 was fairly rounded out.

NOTABLE WORDS.

An address on progress, delivered before the Colleges of History and Literature by Mr. Charles Dudley Warner, on Tuesday evening, June 24, appears to have been a neat and happy answer to the skepticism of both Froude and Ruskin as to the real and material progress in our day ; but its points were too fine and its connection too complete for ready extracts.

In an address before the Sibley College of Mechanic Arts, on Wednesday evening, June 25, Hon. Erastus Brooks expressed opposition to the principle of the co-education of the sexes in our higher institutions, and said that if he had been present at the meeting of trustees in which the subject was discussed he should have voted against the acceptance of a bequest from Mr. Sage, of which this co-education was a condition. But now that the question had been decided in favor of the system, he was for a full and fair trial of so important an experiment.

COMMENCEMENT-EXERCISES.

In accordance with the free religious system at Cornell, the Lord's Prayer only opened the commencement-exercises, which otherwise consisted of 6 orations, 3 theses, and 1 poem, interspersed with the usual interludes of music, and followed by the conferring of degrees, with an address from the president, and the benediction.

DEGREES IN COURSE.

The degrees conferred in course, all after full examination of the candidates, were in arts, A. B., 17 ; A. M., 1 ; in literature, L. B., 3 ; in Philosophy, Ph. B., 6 ; Ph. D., 1 ; in science, chemistry, and natural history, Sc. B., 45 ; in agriculture, Agr. B., 1 ; in architecture, Arch. B., 1 ; in engineering, B. C. E., 18, with one additional, who took an advanced degree not named ; in mechanic arts, B. Min. Eng., 3—in all 98, with two licentiates of departments not named. There were no honorary degrees.

NEW PROFESSORSHIP CREATED.

In Italian and Spanish languages and literature.

NEW PROFESSORS CHOSEN.

Of mathematics, 1 ; of civil engineering, 1 ; of military science, 1 ; of Italian and Spanish languages and literature, 1—total, 4.

BENEFACTIONS.

Since the commencement of 1872 there have been given for the uses of the university, in addition to previous gifts from the same generous friends, from Hon. Ezra Cornell, \$75,000; from Hon. A. D. White, \$20,000; from Hon. H. W. Sage, \$20,000; from Hon. Hiram Sibley, \$50,000; from John McGraw, esq., \$20,000—in all \$185,000.

LIBRARY.

The increase of the library during the year past has been, from purchase, 2,100 volumes; from gifts, 320 volumes, besides 700 pamphlets donated.

NEW BUILDINGS.

University-chapel, at an estimated cost of \$30,000, and Sage College, estimated cost \$150,000, have been commenced and are advancing toward completion.

PUBLICATIONS.

"Cornell University Register," 7,000 copies; *"Cornell University, what it is and what it is not;"* *"Report of committee on Mr. Sage's proposal."*

ST. LAWRENCE UNIVERSITY, CANTON.

PRELIMINARY EXERCISES.

The baccalaureate-sermon of Dr. Steele on Sunday afternoon, June 22d, was upon the same theme with that of Dr. Porter at Yale the same day, the need of faith in a personal and present Savior in order to an overcoming of the world. It was followed in the evening by one from the Rev. George C. Haddock, of Fond du Lac, before the societies, on the evidences of the existence of a personal God, instead of a mere creative force or essence. Kindred with these was an address by the Hon. T. O. Howe on Tuesday evening on the pre-eminence of the sacred system of the Scriptures over all forms of religious belief, his effort being to show that the principles enunciated by Abraham, Moses, and Christ formed the substratum on which the whole fabric of civil and religious freedom has been built, and that these principles alone can give stability and permanency to all government.

COMMENCEMENT-DAY.

Thursday, June 26, witnessed the graduation of a class consisting partly of young ladies who had sustained a satisfactory examination.

DEGREES IN COURSE.

The degrees conferred on the completion of the several terms of study were, A. B., 2; Sc. B., 6; D. B., 7.

NEW PROFESSORS AND PRESIDENT.

Rev. A. G. Gaines, Chapin professor of intellectual and moral philosophy, appointed president; Mr. John S. Miller appointed professor of Latin and Greek; Miss Lucy G. French, appointed Saint Mary's professor of modern languages.

NEW PROFESSORSHIP CREATED.

Saint Mary's professorship of modern languages, to be sustained by subscriptions of lady-friends of the institution.

BENEFACTIONS.

From estate of Mr. L. A. Goodnow, of Watertown, New York.....	\$1, 000
From Mrs. Mary Gunn.....	2, 000
From Mrs. Lorena Bicknell.....	10, 000
From Mrs. Mary Cook.....	1, 000
From Mr. Allen Lyman.....	1, 000
From General E. A. Merritt.....	50
From forty-five ladies, for Saint Mary's professorship.....	450
From C. D. Wait.....	10
Total.....	<u>\$15, 510</u>

LIBRARY.

The library has been increased during the year by 340 volumes. It has received in money from Mr. Silas C. Herring, of New York, \$450.

PROPOSED ADVANCE.

The board of trustees, at their annual meeting, voted to organize a chair in natural history, and are endeavoring to establish a professorship of civil engineering.

INGHAM UNIVERSITY, LE ROY.

The commencement of this institution for the higher education of women occurred on Wednesday, June 18, when three graduates received the degree of A. A., (first degree in letters, equivalent to A. B.), and two that of A. P. M., (first degree in music, equivalent to Mus. B.)

NEW PROFESSORS.

The new professors appointed during the year were the Rev. L. D. Chapin, acting chancellor of the university, to the chair of mental philosophy and classical languages, and Professor J. Jennings to the chair of natural sciences and mathematics.

BENEFACTIONS.

The sum of \$8,500 was received during the year from several donors.

COURSES OF STUDY.

There are five established courses of study :

The academic course, extending through two years, in which the English branches are made prominent.

The classical course, occupying four years, in which, in addition to a full literary course, the classical studies are taken.

The literary course, extending through three years, in which the modern languages, science, history, and literature have the prominent places.

DEPARTMENT OF THE ARTS.

This department owes its origin to the genius and labors of the late vice-chancellor of the university, Colonel P. Staunton, to whose memory the conservatory, which bears his name and contains his pictures, has recently been erected.

This institution, in accordance with its plan as a university for women, aims to do for them what is done in large cities by schools devoted exclusively to art-studies. Believing in the great possibilities of women as artists, it is designed to afford the very best advantages for their development.

PHYSICAL EDUCATION.

The universally observed tendency to physical deterioration among American women demands prompt and earnest attention to the subject of physical culture. Among the means relied upon in this department are cheerful recreation in the university-grounds, daily walks, fixed hours for retiring and rising, calisthenic and gymnastic exercises, and instructions in the laws of health. The admirable gymnastic system of Dr. Dio Lewis, of Boston, has been adopted as a means of promoting the strength and systematic development of all the physical powers, and of affording exhilaration to the whole being. Of these important advantages every pupil is required to avail herself.

LIBRARY, APPARATUS, ETC.

The institution is in possession of libraries containing over three thousand volumes, and of a valuable cabinet of minerals and fossils, a catalogue of which is preserved and published, with the names of the donors. For the use of classes in mathematical and natural science, the institution is furnished with philosophical and chemical apparatus; also globes, maps, and charts for illustrating geography and history.

CABINETS OF SCIENCE AND THE ARTS.

In the studies of natural history, geology, and mineralogy, the institution possesses ample means of illustration. A collection of seven

hundred birds represent those of the United States and those of tropical South America; and other departments of zoology are correspondingly well illustrated. Professor Ward's casts of monster fossils reproduce the fauna of past ages; and relieve maps of the Alpine regions, and of the great volcanoes, give reality to distant scenes.

DEGREES.

The degrees which the university is, by its charter, empowered to confer correspond to those given by institutions of the highest grade. These degrees are given to the graduates from its different courses of study.

SYRACUSE UNIVERSITY, SYRACUSE.

The Syracuse University is the fruit of an effort to establish in Central New York a strong Methodist Episcopal educational foundation. To some extent it is an outgrowth from Genesee College, Lima, New York, which the originators of the university desire to transfer to a more influential and populous locality. At the close of its second year it presents itself with a formed college of the liberal arts, college of physicians and surgeons, and three affiliated gymnasia, one at Claverack, one at Cazenovia, and one at Antwerp, New York, with a probability of soon having at least another in like relation to it, all serving as feeders of the university. Property to the value of \$650,000 is also claimed, all making an imposing show for an educational establishment of but two years of age.

HISTORICAL ADDRESSES.

At the inauguration of the newly-chosen chancellor, Alexander Winchell, LL. D., late of the University of Michigan, Dr. Winchell delivered a discourse on "The idea, the internal economy, and the material constituents of the modern university," which contained one of the fullest expositions of the university-system, medieval and modern, that has been put forth in America.

On Tuesday evening of commencement-week another valuable address was delivered by the Rev. Dr. Tyler on "Early colleges and college-builders of America."

The speaker, after a few introductory remarks relative to the polity of the colonists in founding colleges, named three principal motives in their action: the first, always prominently advanced, was to provide themselves with a succession of learned ministers; the second was to provide learned laymen, statesmen as well as churchmen; the third, especially with Harvard, Yale, and William and Mary Colleges, was the romance of education, to convert the Indians.

He next proceeded to answer the question how these colleges were established, in the midst of such poverty and privation as the colonists were enduring.

Two methods were named. Of the first, William and Mary was an example, founded not by the community itself, but by the King of England; of the second, Harvard and Yale Colleges were examples, slowly built by the voluntary contribution of all the people.

As a result William and Mary, the infant child of royal patronage, was weak-kneed, and the moment royal support was withdrawn, fell into helplessness, and has never risen, while Harvard, the child of the sovereign people, has grown to be the richest and most powerful educating corporation in the western hemisphere.

Finally, the vast results of the early establishment in the colonies of these colleges were stated. Besides the two first-named purposes, which were fully accomplished, the influence on the development of American freedom was marked. In the words of Cornwallis, "The early establishment of your colleges hastened the Revolution a half-century."

COMMENCEMENT-DEGREES.

The degrees in course on commencement-day were as follows:

A. B., 3; A. M., 6, one of these being a female; Sc. B., 2; Ph. D., 1.

HONORARY DEGREES.

In consequence of the relations of the university to Genesee College, some of its graduates received degrees equivalent to those held by them from the college, viz: A. M., 1; Sc. M., 5, of whom two were females.

The degree *ad eundem* was conferred on Rev. J. Chapman Jones, A. M., Trinity College, Dublin, Ireland.

The honorary degree of D. D. was conferred on Rev. Michael J. Cramer, United States minister to Denmark.

NEW DEPARTMENT.

College of Fine Arts of Syracuse University.

HOBART COLLEGE, GENEVA.

A memorial-sermon before the De Lancey Association, preached by Rev. J. A. Bolles, D. D., and commemorating the virtues of the late Professor Kendrick Metcalf, D. D., opened the exercises of commencement-week in this pleasant Lake-City of New York. The text was, "The memory of the just is blessed." The baccalaureate-sermon, in the evening of the same day, June 15, was by the Rev. E. S. Wilson, of Corning, New York, his theme being in opposition to the Darwinian theory, the derivation of being and faculties directly from the Almighty.

Thursday was commencement-day, when there were conferred the following degrees in course: A. B., 13; A. M. 6; Sc. B., 2.

HONORARY DEGREE.

The honorary LL.D. was bestowed on Hon. James M. Smith, of Buffalo.

WELLS COLLEGE FOR WOMEN, AURORA.

REPORTED BENEFACTION.

This interesting institution, founded by Henry Wells, esq., and chartered with full collegiate powers by the legislature of New York, is said to have received an endowment-gift of \$100,000 from Hon. E. B. Morgan, one of its trustees.

ALFRED UNIVERSITY, ALFRED.

DEGREES.

The thirty-seventh anniversary of Alfred University came July 2, 1873, when the following degrees in course were given: A. B., 7; A. M., 4.

"The institution has been open to both sexes since its organization, and no just reason is seen for any change in this direction." President Allen, who is gradually overcoming its embarrassments, has been honored with a special Doctorate of Philosophy by the regents of the State University.

ADDENDA TO COLUMBIA COLLEGE, NEW YORK.

[See pages 73 and 74.]

LIBRARY.

Additions: College-library, 838; School of Mines' library, 507, of which 206 were donations. Gifts to college-library in books, 400 volumes from Bishop Eastburn, besides some duplicates; 47 from other persons.—Total, 447.

MUSEUM.

Additions: To the herbarium, contributions from Mr. J. J. Crooke, Dr. C. C. Parry, and Hon. George W. Clinton.

NEW BUILDING.

An astronomical observatory.

PUBLICATIONS.

Annual catalogue; President's annual report.

NEW JERSEY.

COLLEGE OF NEW JERSEY, PRINCETON.

PRELIMINARY CALEDONIAN GAMES.

On Saturday preceding baccalaureate-Sunday, the students of Princeton, for the first time, entered into a series of Caledonian games, in the presence of a throng of spectators. The feats consisted in standing and running jumps, putting the stone ball, leaping, throwing the hammer and ball, the hurdle-race, running, vaulting with the pole, the sack-race, &c. President McCosh announced the prizes to the successful contestants.

BACCALAUREATE-SUNDAY.

The exercises of the one hundred and twenty-sixth annual commencement began on Sunday, June 22, with the baccalaureate-sermon, by President McCosh, in the First Presbyterian Church. The subject of the discourse was "Singleness of eye." Of scientific truths, of premature hypotheses, and of crude theories of science, the learned president said :

"Accept the truth and follow it out. It is a truth of science that you are asked to believe. Ascertain, first, if it is a truth of science, sanctioned by induction, and not a mere fancy or plausible theory ; and if it is so, then receive it. But then you say it is not consistent with religion, and you ask, 'Which am I to give up, my Bible or science?' I answer, give up neither. The two may turn out to be consistent, whether thy mole's eye can see it or no. There was a time when people, pious and impious, thought Laplace's theory of the heavens inconsistent with religion. Now, every scholar sees, or may see, that there must be an ordinating power above, bringing such order out of what was once without form and void, as Scripture describes: 'The earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God moved on the face of the waters.' When Darwin maintains that there is development in nature, that there is a law of natural selection, that there is a tendency in the fittest to survive, he is uttering truth in thorough conformity with Scripture, which everywhere proclaims that there is development in the kingdoms both of nature and grace ; that useful things are fostered, and noxious things allowed to become fewer and disappear. But if any one maintains that development can be carried on without the power of God, that there is nothing in nature but development, that development does not imply something original out of which the development has come, and a process requir-

ing to be arranged by a divine mind, and that there is not in man a thinking and responsible soul, as well as a material and organized body, he is setting himself not only against religion, but against natural observation and all philosophy. Darwin, himself, has been calling in a vague pangenesis or universal life to account for what his development-theory does not explain. This pangenesis is a vague expression for the great spiritual power working in nature and above it, and without which we can account for nothing. Hold by the truths of science, but beware of premature hypotheses and crude theories which overlook vastly more than they look at; but hold, at the same time, by the truths of religion."

LAST WORDS TO THE GRADUATING CLASS.

"You have to go out from this place into a world in which there is a keen contest between truth and error, and you must be prepared to take your part. However we may account for it, our world has been from the beginning an arena of contest, a succession of darkness and light, of night and day, first of warring elements, according to Laplace's theory; then of warring animals, and a struggle for existence, the strongest and fittest prevailing, according to Darwin's theory. There is still a war between the conscience and the passions in the breast of man; between the flesh and the spirit in the breast of the Christian; between truth and error; between purity and pollution in the world. I wish you to realize, in starting, that it is into such a world you are now to enter, through such a world you are to find your way. In this contest the decisive battle was fought in the middle of the human *æon*, upward of 1,800 years ago, and we have to continue the contest as soldiers under Him who then gained a victory—an earnest of the final and complete victory.

"It is a contest between truth and error. The error takes different forms in different ages. The contest is now a fundamental one—not about the outposts, but for the very citadel; not about this truth or that truth, but as to whether there be any truth above what can be discovered by the senses. It is as to whether man is made after the image of God or after the image of the lower animals. It is not about metaphysical subtleties, but whether man has a soul spiritual, responsible, and immortal; whether we have proof of the existence of any other world than this passing one. In going into such an arena you must be prepared by intellectual discipline and must take a firm stand and show courage, otherwise you will be thrown down and have to roll in the sand amidst the jeers of men. I believe that in this conflict you will often fall back on the great fundamental truths—scientific, philosophic, and religious—which you have been taught in this college."

PHYSICAL TRAINING.—GYMNASTIC EXHIBITION.

On Monday, June 23, the rooms and galleries of the gymnasium were filled to witness the annual exhibition. The students who took part in the exercises had been selected from all the classes, and fully represented the physical strength and grace of the college. The constant practice, which for several years the majority of them had daily undergone, had produced well-developed forms, while their bright uniform displayed all the grace of figure growing out of scientific physical culture. So many rugged and hearty young men are seldom seen together, and some of their feats of strength and agility were indeed startling and remarkable. Conspicuous among these were the turning aerial somersaults, the brilliant performance upon the trapeze, swinging of the Indian clubs, and exercises on the parallel bars. The results developed are due to a perfect system with which neither the regular duties of the college nor the caprices of the students can interfere.

Through the untiring energies of Mr. George Goldie, the gymnasium has become a moral agent, exerting an influence which is felt in almost all the departments of the college.

CLASS-DAY PRESENTATION.

The exercises of class-day were held in the afternoon, in the Second Presbyterian Church. Following these was the presentation of an elegant marble bust of President James McCosh to the college-library by the class.

ORATION BEFORE THE LITERARY SOCIETIES.

On Tuesday the annual oration before the literary societies was delivered by the Hon. Henry H. Ross, of Pennsylvania, of the class of 1857, whose theme was the necessity of educated men taking an active part in political affairs.

NEW LIBRARY-BUILDING.

In an address at the opening of the new library-building, Mr. William Cullen Bryant spoke of Mr. Green, the donor, as "one who prizes the uses of wealth beyond its possession; and instead of clinging to it while life lasts, and only then directing how it shall be disposed of when he can possess it no longer, forces it to go from his hands upon an errand of beneficence. He has his reward in seeing how worthily thus far it has performed the office on which he sent it forth.

"I read, the other day, in a book published in 1839, that the library of New Jersey College then consisted of eight thousand volumes. At present, with the aid of the benefactions of Mr. Green, to which I have just referred, I am informed that the number will exceed a hundred thousand, a number equal to that of several of the public libraries of

Europe which have long been famous, while provision is made for its future increase from year to year. If in the next half-century its increase should be in the same proportion, it will take its place among libraries of the first class in the Old World, the accumulations of many centuries. It is well that the library should keep pace in its growth with the institution to which it belongs. Under the present wise and fortunate administration of the college the course of study prescribed to the students has been greatly enlarged; new branches of learning and science have been added; new professorships have been created, fellowships endowed, and prizes proposed to award the diligence of the students. A library amply stored has become more important than ever, for with a wider sphere of study there must be wider and deeper research.

"Every advance in civilization, every shining example of active virtue, every wise or sacred precept of human conduct, every triumph of art and skill, everything, in short, that stores the mind with wisdom or instructs the hand or enlightens the conscience, is of the past, and books are the repositories in which they are laid up for the use of mankind from generation to generation. Destroy the volumes in which they are contained, and you blot out the past ages, with all that they have done for us, and the human race would drift hopelessly into barbarism.

"The illustrious ones who have passed the gates of death before us may have left their material part in graves marked by some known memorial, or their dust may be scattered to the winds, but here is what the earth still possesses of their higher nature. Here are their words, still animated by the living soul, and here is the record of their glorious example. It matters not where their bones are laid, while we have among us, in the volumes which this structure will contain from century to century, this remnant of the immortal spirit."

NEW SCHOOL OF SCIENCE.—INAUGURAL ADDRESS.

The inaugural address at the opening of the new School of Science, endowed by J. C. Green, esq., of New York, was delivered by Professor Joseph Henry, of the Smithsonian Institution, who spoke of the nobility of science, and of the advantages now to be had at American colleges for scientific instruction. Professor Henry expressed the hope that more of our students and scholars might use the opportunities now afforded for scientific culture.

COMMENCEMENT-DAY.

On Wednesday, June 25, came commencement-day; the exercises of the graduating class being held in the First Presbyterian Church, in the presence of a large number of the friends, patrons, and graduates of the college. Fourteen members of the class delivered addresses, Elmer Ewing Green, esq., of new Jersey, pronouncing the master's oration.

DEGREES IN COURSE.

The degree of A. B. was conferred on 76 members of the graduating class; that of A. M. in course on 75.

FELLOWSHIPS.

The fellowships were given as follows:

First Marquand classical, D. Scott; mental science, M. J. P. K. Bryan; experimental science, Mr. Devereux; Boudinot historical, Mr. Carr; Boudinot modern language, Mr. Hubble. The fellows will for the most part continue their studies for the next year in the universities of France, England, and Germany.

HONORARY DEGREES.

The honorary degree of LL. D. was bestowed on Hon. George M. Stroud, of Philadelphia, of the class of 1871; J. A. Thomas, M. A., M. D., of Pennsylvania; William Cullen Bryant, New York; and Rev. John Forsyth, professor at West Point Military Academy—4; that of D. D., on Rev. William Irvin, of Troy, New York, and Rev. Daniel S. Gregory, professor at Wooster University, Ohio—2; that of A. M. on John J. McCook, of New York—1.

NEW DEPARTMENTS.

The new departments added during the year were a school of science and a preparatory school.

The students in the School of Science will receive thorough instruction in mathematics, mechanics, physics, chemistry, (general and applied,) geology, physical geography, zoology, botany, mineralogy, with English composition; and will be required to make a selection of a limited number of studies from among the literary branches taught in the academic department, such as Latin or Greek, French, German, English literature, history, logic, ethics, psychology, political economy, international law, and natural theology.

A course of a high kind will be arranged for students who, after taking the degree of Bachelor of Arts, wish to pursue further scientific studies. On those completing this course, the degree of "Doctor of Science" or "Doctor of Philosophy" may be bestowed.

There will be a carefully prepared course for those who wish a scientific education, with a fair literary culture, without being required to pursue classical or high philosophical studies. This course may extend over three years, and those completing it receive such a degree as that of Bachelor of Science.

CHANGES IN THE CURRICULUM.

The experiment now making at Princeton is to include both a high school and a university within the scope of a college. To this end the

system employed is conservative in one respect, and progressive in another. Freshmen and sophomores are thoroughly drilled in the classics of the advanced high-schools, and juniors and seniors are permitted to select for themselves all the studies of a regular university-course. The courses require for both admission and graduation a severe examination in the fundamental branches of Latin, Greek, and mathematics, and thus solid acquirements are combined with a good degree of philosophical and literary culture.

NEW PROFESSORSHIPS CREATED.

The professorship of physics, the professorship of analytical chemistry and mineralogy, and the professorship of natural history. An assistant professor of rhetoric and an associate professor of mathematics were also appointed.

GIFTS.

Since the commencement of 1872 the college has received, by donation from Mr. John C. Green, of New York, for library, \$120,000; for School of Science, \$100,000; for librarian's-salary fund, \$10,000. From Mr. John C. Blair, \$10,000. From a gentleman, whose name is not given, \$10,000. From alumni, to increase professors' salaries, \$6,000. From Mr. Henry Marquand, of New York, toward building a new college-chapel, \$100,000.

NEW BUILDINGS.

The new buildings added during the year were the library, costing \$120,000, and a school of science, costing \$100,000, both gifts of Mr. John C. Green, of New York.

PUBLICATIONS.

An article on Berkeley, in the Princeton Review, by President McCosh; annual catalogue; triennial catalogue, and circulars of school of science and preparatory school.

ENDOWMENTS, ETC., SINCE 1869.

The following statement shows the benefactions to the college since the coming of Dr. McCosh to the presidency in 1869. Several of the amounts named above, under the head of gifts, having been bestowed since the publication of this statement, are not included therein :

Presidential endowment-fund.....	\$63,000
Gymnasium and site given by Robert Bonner and H. G. Marquand.....	38,000
Dickinson Hall, H. C. Green, donor	87,000
Elizabeth foundation-fund.....	25,000
Reunion Hall, (dormitory).....	30,000
Museum.....	3,000

For the professorship of continental languages.....	\$10,000
For the professorship of science and religion.....	10,000
For the professorship of mathematics.....	30,000
Prize of the class of 1859.....	1,000
Fellowship of the class of 1860.....	10,000
Scholarship of Samuel Hamil.....	1,000
Stinnecke fund	9,000
College organ.....	2,500
New library, by John C. Green.....	120,000
School of Science, by John C. Green.....	200,000
Prize of class of 1861	1,200
Increase of Robert Lenox professorship.....	5,000
Marquand fund—for preparatory school, \$30,000; not assigned, \$75,000.....	105,000
Additional scholarships.....	5,180
Additions to gymnasium-lot	6,000
Professorship of mining and engineering, in part by George J. Magie.....	5,000

RUTGERS COLLEGE, NEW BRUNSWICK.

The commencement exercises of Rutgers College began on Friday preceding baccalaureate-Sunday, with the reading of theses by twelve members of the scientific division of the graduating class, before the board of visitation, in the college-chapel.

ALUMNI-MEETING.

At the alumni-meeting on Tuesday, a report was read recommending application to the legislature for an act incorporating the Society of the Alumni. The report was adopted, together with a draught of a constitution and by-laws.

The alumni then presented, through a committee, to the college, fine portraits in oil, handsomely framed, of Dr. John Knox, a collegiate-church clergyman of fifty years ago; James Van Campen Romeyn, D. D., a trustee for thirty years and one of the Reformed Church fathers; Peter Spader, college-trustee for thirty years, and Tunis Quick, another old friend of the college. The institution now possesses a gallery of about thirty large oil-portraits, which adorn the chapel in handsome style.

ORATION BEFORE THE ALUMNI.

The annual oration before the alumni was delivered by the Rev. Theodore B. Romeyn, taking for his subject "The college as a conservative force." It was an argument in favor of a classical education as against the "ultra-utilitarian method" of training.

After the oration the alumni proceeded to the Geological Hall, where a collation was spread, at the conclusion of which the usual speeches resulted in gifts to the amount of \$50,000. The most important gift was that of J. W. Schermerhorn.



NEW PROFESSORSHIP OF ENGLISH LITERATURE AND JOURNALISM

Mr. Schermerhorn offered to the college one-half of the net proceeds of his mines in Morris County, until the sum of \$45,000 shall be accumulated; this shall then be taken to found a professorship of English literature and journalism. Mr. Schermerhorn gives permission to the college to appoint the professors and begin instruction before the \$45,000 is obtained.

OTHER GIFTS.

Justice Bradley gave \$1,000 toward a dormitory, and agreed to fill one alcove of the library; President Campbell, P. H. Duryea, of Newark, and Dr. Chambers, of the New York Collegiate Church, gave \$500 each for the dormitory; the Rev. Dr. J. B. Thompson, representative of the Free Church of Italy, the son of C. H. Winfield, of Jersey City, and the Rev. P. Q. Wilson each gave \$100; the Rev. Dr. Schenck, of Monmouth; Alexander Hamilton, son of the great statesman of the same name; the Rev. Dr. Le Fevre, of Baritan; the Rev. Dr. Berry, of Montclair, and another gentleman, gave each \$50—all to the dormitory. Professor John C. Smock, of the college, presented the library with complete sets, in French, of the *Journal des Mines* and *Annales des Mines*, 140 volumes, worth \$300—a work now very difficult to obtain entire; C. H. Winfield, of Jersey City, agreed to fill an alcove with books, and Dr. Schenck, of Monmouth, gave 50 volumes.

COMMENCEMENT-DAY.—DEGREES CONFERRED.

The exercises of commencement-day were held in the Reformed Church on Wednesday, June 18, and were largely attended. According to the published programme, twenty members of the graduating class were assigned orations and addresses. After the announcement of the prizes for excellence in scholarship, the degree of A. B. was conferred upon 26, and the degree of Sc. B. upon 13 of the graduates by President Campbell. The degree of A. M. was conferred upon 18, and the degree of Sc. M. upon 6 candidates in course.

The following scientific graduates received the degree of Civil Engineer:

Professor Albert E. Bowser; George Howell, division engineer on Pennsylvania Railroad; William E. Kelley, proprietor of National Iron Works at New Brunswick; Floyd M. Vanderhoef, civil engineer on Pennsylvania Railroad, of the class of 1868, and James K. Barton, of 1871—5.

HONORARY DEGREES.

The honorary degree of Ph. D. was conferred on George Washington Hill, of class of 1859, now of the Nautical Almanac Office—1; that of A.

M. on Rev. J. G. Crate, of Pemberton, New Jersey ; C. Ridgley Goodwin, of Baltimore, Maryland—2 ; that of D.D., on Revs. John Steele, Paterson ; William Hays Ward, New York ; R. M. Stratton, Yonkers ; E. W. Appleton, of Cheltenham, Pennsylvania ; Abel T. Stewart, Holland, Michigan ; Isaac S. Hartley, Utica, New York ; and Augustus Blauvelt, Kings' on, New York—7. That of LL.D. on Rev. William Henry Green, professor of Hebrew in Princeton College ; Professor David Murray, Ph. D., commissioner of education in Japan—2.

LEGACIES.

The following legacies were received during the year : \$20,000 from James Suydam, New York ; \$3,000 from Miss Harriman, Brooklyn.

GIFTS.

One thousand dollars from Jacob H. Ten Eyck, Albany ; \$45,000 from J. W. Schermerhorn, New York City, to found a professorship of English literature and journalism.

LIBRARY.

There have been contributed to the library \$100 in cash, and books valued at \$800.

MUSEUM.

Considerable additions of various descriptions have been made to the museum during the year. At the collation of the alumni several gentlemen subscribed the sum of \$2,457 to purchase cases for the collections in natural history in Geological Hall.

NEW BUILDINGS.

The new building, which, but for the accidental falling of a wall, would have been ready for dedication, is the Sophia Astley Kirkpatrick Memorial Chapel, a large, handsome brown-stone structure, costing \$60,000. It will contain a handsome chapel, finished in black walnut, with a seating capacity of 500, a spacious library-room, and rooms for the board of trustees and the president. It is the gift of the lady whose name it bears.

The college contemplates building a new dormitory at a cost of \$30,000, for which a part of the money is already raised. Four thousand dollars of the required amount were subscribed for this object at the alumni-dinner.

PUBLICATIONS.

Manual on Surveying, by Professor David Murray. 12°. J. W. Schermerhorn & Co., publishers, New York City; *Rutgers College Tar-gum*, a monthly paper published by the students.

SETON HALL COLLEGE, SOUTH ORANGE.

The seventeenth annual commencement of Seton Hall College was held June 25, a large number of clergy and laity being in attendance. The Right Rev. M. A. Corrigan, bishop of Newark, still retains his position as president of the college, and so presided and distributed the degrees and awards of merit to the young gentlemen.

After the speaking by five members of the graduating class, William H. Dornin, A. B., delivered the "master's oration," his subject being "Mankind elevated by labor." He compared, favorably for the former, manual labor and the mechanic arts with the uncertainties in the crowded learned professions.

DEGREES CONFERRED.

The degree of A. B. was conferred on 7 young gentlemen of the graduating class; 5 former graduates received the degree of A. M. in course.

One gentleman, name not given, received the degree of A. M., *causâ honoris*.

LIBRARY.

The increase of the library during the year was 200 volumes.

PENNSYLVANIA.

UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

This venerable institution, sixth in order of age of all the colleges in the United States, under its present active president has taken recently such great strides in advance, broadening its course, improving its location, erecting for itself new buildings of the finest kind, and securing a vast increase of endowment, that more than usual interest attaches to its record for the year just past.

COMMENCEMENT-DAY.

The one hundred and sixteenth commencement of the college occurred on Thursday, June 26. As usual, the exercises were held in the largest audience-chamber in the city, the grand Academy of Music, at Locust and Broad streets, and the public interest in them was manifested by the rapid filling of this great edifice upon the early opening of its doors. At 11 o'clock the graduates, preceded by the board of trustees and faculty, appeared upon the stage, and were received with warm applause. The provost, being a layman, called on the vice-provost, the Rev. Dr. Krauth, to offer the opening prayer, after which six members of the graduating class delivered addresses, and Harold Goodwin, of the class of 1870, the master's oration, "On education as, next to Christianity, the great agency for the civilization of the world."

The degree of A. B. in course was then conferred on 25 graduates of the department of arts, and that of Sc. B. on 11 from the department of science. From the Law School, 8 were gifted with LL. B.; and from the Medical, 5, who had after graduation pursued two courses of extra studies under the auxiliary faculty of medicine, had that of Ph. D. The Medical School, at the close of its course in March, had given the diploma of M. D. in course to 99 graduates.

The degree of A. M. in course was bestowed on 13 members of the college-class of 1870.

HONORARY DEGREES.

Only one gentleman, the Rev. J. W. Robins, principal of the Philadelphia Episcopal Academy, was made D. D., and one, the Rev. J. Emlen Hare, D. D., of the West Philadelphia Divinity School, LL. D.

NEW DEPARTMENT.

The trustees of the university, desirous to fully meet the needs of the time, established in the summer of 1872 a new faculty, to be known as

the department of science, which entered on its work at the beginning of the term of 1872-'73. In a city where the manufacturing industry of the population now turns forth daily products of a million of dollars in value, the creation of such a department was especially demanded, and its establishment rounds out completely the circle of instruction sanctioned by the charter, the department of arts, having been established in 1755; that of medicine in 1765; that of law in 1789; and that of the auxiliary faculty of medicine in 1864. Instruction in theology is excluded by the charter. The new department is officered by seven professors, additional to nine connected with the college proper, and to those of the connected Schools of Law and Medicine.

NEW PROFESSORS APPOINTED WITHIN THE YEAR.

George F. Barker, M. D., to the chair of physics.

Lewis M. Haupt to that of assistant professor of civil engineering.

NEW PROFESSORSHIP CREATED.

That of civil and mechanical engineering, endowed with \$50,000 by Asa Whitney, esq., of Philadelphia, and to be known as the "Whitney professorship."

BENEFACTIONS.

About \$14,000 for several objects, mostly in subscriptions of small amounts from many individuals.

LIBRARY.

The library, owing to its removal and large increase, both by gifts and purchase, is yet unarranged in its new rooms. The estimated increase from all sources for the year is about 15,000 volumes.

Valuable collections of books have been presented by the families of the late Stephen Colwell, esq.; the late Evan Rogers, esq.; and the late Dr. Charles M. Wetherill, while a living friend has appropriated a large sum for the purchase of a complete collection of works on engineering.

MUSEUM.

The museum of the college, already quite extensive, has been increased during the year past by the purchase of a valuable collection of minerals, said to be one of the finest in the United States, while the students have ready access also to the splendid collections of the Philadelphia Academy of Natural Sciences.

The Wistar and Horner museum of the Medical School, founded nearly one hundred years ago, and now of great extent, receives annually large accessions, and that of Dr. George B. Wood, unrivaled in extent and value for illustrating diseases of the internal organs and the skin, has been substantially incorporated with it.

NEW BUILDINGS.

A magnificent new building, forming probably the finest existing college-edifice in America, has been completed and occupied during the past year. The design of this building, which is at the corner of Locust street and Darby Road, West Philadelphia, is what is known as the collegiate-gothic. The structure consists of a main central building, with connected eastern and western wings, which are completed by towers surmounted with spires. The front, on Locust street, extends 254 feet in length, with a depth at the center of 124 feet. The western wing has been arranged for the use of the department of arts, the eastern for that of the department of science, while certain portions of the center are intended for the common use of both departments, such as the chapel, library, and assembly-room.

The whole cost of this noble edifice has been \$235,910, exclusive of the ground, for which, (ten and a quarter acres,) \$82,184 were paid. But as the trustees have since effected a sale of their old site in the city to the Government of the United States for more than twice what the new building and ground have cost them, the university will be the gainer by its transfer of location to the amount of something like \$300,000 of additional endowment.

In addition to the new college thus secured, two other noble structures, one for the medical department of the university, the other for a free hospital to be under its control, have had their foundations laid on the same grounds, the subscriptions for the erection of them amounting to about \$200,000 each. When these shall have been completed, the University of Pennsylvania will stand, in respect to buildings for its use, in the forefront of the colleges of the United States.

PUBLICATIONS.

The annual catalogue, special announcement of the organization and courses of study of the new department of science, and *Proceedings at the inauguration of the building for the departments of arts and sciences in the University of Pennsylvania.*

LAFAYETTE COLLEGE, EASTON.

The exercises of commencement-week opened on Sunday morning, June 29, with the baccalaureate address and sermon, by President Cattell. His text was, "Thou thoughtest that I was altogether such an one as thyself;" from Psalms, 50:21. The aim of the discourse was to show that men, left to their unaided reason, must conceive of God as a being like themselves, and that the Bible, correcting these errors and presenting the only object of supreme worship that satisfies our reason and moral sense, is a Divine revelation.

The conclusion of his discourse was devoted to the claims of the volume we hold to be thus inspired, demanding for it the highest place among the books of a college course, and urging also that in the classical curriculum the Latin and Greek writings of authors imbued with the spirit of the Bible should be preferred to those of heathen authors.

ALUMNI-DAY.

The reunion of the Washington and Franklin Literary Societies took place Tuesday morning upon the college-hill. In the evening, before these literary societies, in First Presbyterian Church, President James McCosh, of Princeton College, delivered the annual oration. He prefaced his address by saying that he came to speak as an act of neighborly courtesy. Lafayette and Princeton were rivals in no other sense than in their efforts to see which of them could do the most good. Princeton College took great pride in the fact that she had furnished to Lafayette its honored president, who was one of her alumni, and he expressed the hope that, under the blessing of Divine Providence, both institutions might be enabled to make their influence for good more powerfully felt than ever. He then delivered his oration, which was on "Faith." Upon its conclusion the orchestra played a selection of Scotch national airs, as a compliment to the distinguished head of Princeton.

PARDEE HALL.

In the afternoon of alumni-day occurred the dedication of a new building for the scientific department, the fruit of a donation by A. Pardee, esq., of Hazelton, Pennsylvania.

President Cattell made a brief statement of the purposes of the building to be erected upon the massive foundations around which they were gathered. In 1869, Mr. Pardee became convinced that the large and constantly increasing number of students in the scientific department demanded much larger accommodations, and that a new building should be erected, with extensive laboratories for analytical chemistry, furnace-accommodations for the metallurgists, drawing-rooms for the engineers, halls for the various scientific collections, together with commodious lecture and recitation-rooms. Upon the return of the president from Europe with plans of the most celebrated technical schools of the Old World, the professors, after much consultation and study, prepared the ground-plans for the new building. Mr. McArthur, of Philadelphia, drew the designs; the building itself, without furniture or appliances, to cost \$200,000. He then read Mr. Pardee's letter to him, in which he assumed the whole cost of the structure, which would be one of the most complete for the purposes of technical instruction to be found in America.

Mr. Pardee, being present, modestly said he did not wish the edifice to

be a monument to any man, but—striking the memorial-block—exclaimed, “Let this stone remain forever a monument to science.”

COMMENCEMENT-DAY.

The exercises of commencement-day were held on Wednesday, July 2, in the First Presbyterian Church. The programme consisted of orations by nineteen members of the graduating class, music, and the conferring of degrees.

DEGREES IN COURSE.

The number of these was as follows: A. B., 29; Sc. B., 5; Min. Eng., 1; C. E., 6.

HONORARY DEGREES.

The honorary degree of A. B. was conferred on J. E. Schoonover and James Allen Menard—2; that of A. M. on Charles Kolbe, professor of modern languages, Buchtel College, Ohio; H. P. Davidson, principal of Somerville High-School, New Jersey—3. D. D.: J. Howard Nixon, president of Sinclair College, Missouri; Professor James F. Kennedy, Wilson College, Pennsylvania; William O. Johnston, Philadelphia, Pennsylvania; Joseph E. Nassau, Warsaw, New York; J. Lynn Withrow, Philadelphia, Pennsylvania—5. LL.D.: J. P. Wickersham, superintendent of common schools, Pennsylvania; J. Harrison Thompson, professor of astronomy, Hanover College, Indiana—2.

BENEFACTIONS.

The sum of \$1,000 was presented to the college by Mr. Hollenbach, of Wilkesbarre.

SCHOLARSHIP.

A prize of \$200 was established to be given to the best classical scholar.

NEW BUILDINGS.

Pardee Hall, for the scientific department, is approaching completion. The total expense of the building (\$200,000) was borne by the gentleman whose name it bears. A new chapel was built from the college-funds at a cost of \$30,000.

OTHER GIFTS.

A fine collection of minerals, formerly belonging to Rev. Dr. Beadle, was presented to the college by Hon. William H. Kemble. Dr. Thomas Evans, of Paris, presented a copy of the celebrated picture of La Fayette, by Healy.

PATRISTIC STUDIES.

The college, during the past year, has established an additional course in the classics, in which the Latin and Greek of Christian authors only are read. This patristic course was endowed last commencement by Mr. Benjamin Douglass, formerly of New York City, to meet the objection that some entertain against placing the heathen classics in the hands of students on account of their demoralizing influence. At the beginning of the last college-year the freshmen were offered the choice between these two courses, and a fair proportion selected the patristic course. Professor March has been busy preparing the necessary textbooks, prizes have been established, and the success of the experiment seems to be assured. The regular classical course, similar to that existing in other colleges, remains unchanged.

DECEASED PROFESSORS.

At the alumni-meeting, brief addresses were made commemorative of the Rev. George Junkin, D. D., LL.D., the first president of the college, and of Professor James H. Coffin, LL.D., recently deceased. Measures were taken to endow the professorships once so ably filled by them, to be called the George Junkin professorship and the James H. Coffin professorship.

 PENNSYLVANIA COLLEGE, GETTYSBURG.

The annual commencement-exercises of this institution began on Sunday, June 22, with the baccalaureate-sermon by President Valentine, whose theme was, "Knowledge by service." In the evening Rev. S. Domer, of Shamokin, delivered an address on "Christian union" before the Christian Association of the college.

THEOLOGICAL SEMINARY.

On Tuesday evening the Rev. Dr. Zeigler, of Selin's Grove, delivered the Holman lecture on the Augsburg Confession before the alumni of the Theological Seminary. At the conclusion of the lecture diplomas were presented by Dr. Brown, in behalf of the seminary, to six young men, three others being absent, and one remaining for a fourth year's studies, thus making a class of ten.

MEETING OF THE BOARD OF COLLEGE-TRUSTEES.

At the meeting of the board steps were taken to further the plans for the endowment of the college. Rev. Reuben A. Fink was elected financial secretary, and resolutions were passed urging synods to endow professorships.

RESIGNATION OF THE PRESIDENT.

Dr. Valentine resigned the office of president to again accept the professorship in the Theological Seminary made vacant five years ago by his acceptance of the presidency of the college.

COMMENCEMENT-DAY.

The exercises of commencement-day came on Thursday, when 13 members of the graduating class delivered orations. The master's oration was pronounced by J. L. Kindelhart, of Gettysburg.

DEGREES CONFERRED IN COURSE.

The degree of A. B. was conferred on 15 graduates of the year; the degree of A. M. on 16 former graduates.

HONORARY DEGREES.

The honorary degree of A. B. was conferred on Malcolm O. Smith; that of Ph. D. on Rev. Professor Samuel Aughey.

NEW PROFESSORS.

John A. Himes, A. M., was appointed professor of English language and literature.

BENEFACTIONS.

Since the last commencement the sum of \$11,000 has been presented to the college by various donors.

LIBRARY.

The increase of the library during the year was 200 volumes of books and 100 pamphlets, of which 100 volumes of books and 40 pamphlets were gifts.

NEW BUILDINGS.

A new gymnasium was built during the year, at a cost of \$3,000.

PUBLICATIONS.

Catalogue of the college for 1872-'73; four programmes of public exercises.

 SWARTHMORE COLLEGE, SWARTHMORE.

Swarthmore College, inaugurated in 1869 under the auspices of the Society of Friends, held its annual commencement on Monday, June 18.

The occasion was one of peculiar interest to the patrons and friends of the college, from the fact that the graduating class was the first to complete the full college-course.

The exercises of commencement-day consisted of the salutatory oration in Latin by Miss Helen H. Magill, original addresses by several young ladies of the class, and the valedictory address by Miss L. M. C. Pierce.

DEGREES.

At the conclusion of the speaking President Magill conferred the degree of *Baccalaurea Artium* on the graduating class of 6 young ladies.

NEW DEPARTMENT.

A department of civil engineering was added during the year.

NEW PROFESSORS APPOINTED.

W. H. Appleton, A. M., to the chair of Greek and German; Eugene Paulin, A. M., to the chair of French and Latin; Arthur Beardsley, C. E., to the chair of civil engineering.

BENEFACTIONS.

The sum of \$15,000 was received during the year in small donations.

LIBRARY.

The number of volumes added during the year was 200. The sum of \$600 was received from the P. O. fund.

MUSEUM.

Gifts amounting to about \$2,000 were received for the museum.

DEGREES CONFERRED BY THE COLLEGE.

The degree of A. B. is conferred upon students who complete the classical course, and pass the examinations in the same.

The degree of Sc. B. is conferred upon students who complete the scientific course, and pass the examinations in the same.

The degree of C. E. is conferred upon students who complete the course of civil engineering and pass the examinations in the same.

The degree of A. M., or of Sc. M., will be given three years after graduation, to those students who, after receiving the degree of A. B. or of Sc. B., shall have engaged, during that period, in professional or in literary and scientific studies.

Every facility is offered to those who wish to become proficient in **special** departments. Students not candidates for degrees may pursue **their studies** for a single year, or for a longer period, in any classes

which they are qualified to enter; and be entitled to certificates of proficiency in any department in which they shall have completed the required studies, and passed a satisfactory examination.

CO-EDUCATION.

On this subject the managers in their last annual report say: "Before passing from the subject of instruction, we should once more add our testimony to the general verdict now being pronounced in favor of the co-education of the sexes in our higher institutions of learning. If it could, with any propriety, be called an experiment at the time of the opening of Swarthmore, it can surely be no longer so regarded. In our western colleges co-education is now the rule, separation the exception. In one of the Western States, containing a population of a million and a quarter, and more colleges, with actual college-classes, than any State in New England, women are admitted to every one, and with the best results. Nor is co-education confined to the West alone. The older colleges of the East are moving in this matter, and some have already opened their doors for the admission of women. The University of Vermont now numbers seven young women among her undergraduates, and they are reported as fully equal in scholarship to their classmates of the other sex. Without dwelling at length upon this subject, it is sufficient to say, in this report, that co-education at Swarthmore continues to be, as heretofore, entirely satisfactory to all who have witnessed its results. Its effects are mutually beneficial upon the two sexes, both as to scholarship and character."

POLYTECHNIC COLLEGE OF PENNSYLVANIA, PHILADELPHIA.

The exercises of the twenty-sixth annual commencement of this college were held in the Academy of Music, on Monday evening, June 23.

Addresses were made by Hon. G. W. Woodward, of Philadelphia, Hon. H. B. Palmer, of Luzerne, and Hon. I. Wayne McVeagh, of Harrisburg, and by members of the graduating class.

DEGREES CONFERRED.

The degree of A. B. was conferred on 17 graduates of the year.

Two gentlemen received the degree of A. M.; whether in course, or honorary, is not stated in the notice from which the above information is derived.

FRANKLIN AND MARSHALL COLLEGE, LANCASTER.

The annual commencement of this college occurred on Thursday, June 26.

DEGREES.

A. B. in course, 14; A. M. in course, 5.

HONORARY DEGREES.

The honorary degree of A. M. was conferred on 2; that of D. D. on 6; and that of LL. D. on 1. The names of the recipients were not reported.

NEW PROFESSORS.

The Rev. Walter E. Krebs, A. M., was appointed to the chair of mathematics and history; Rev. Daniel M. Wolf to that of Greek and Latin languages and literature.

NEW PROFESSORSHIP.

The alumni-professorship of English literature was created during the year. The endowment of \$25,000 is about half completed.

BENEFACTIONS.

The college has received during the year gifts from various donors amounting to \$8,000.

NEW BUILDINGS.

An academy designed partly for the preparatory school of the college was built during the year, at a cost of \$15,000.

 LINCOLN UNIVERSITY, OXFORD.

The commencement-exercises of this institution, which is for the education of colored youth, took place on the 18th of June. In a grove not more than twenty yards from the university-buildings a large canvas awning was spread, inclosing seats for about 1,000 persons. The trustees, professors, distinguished friends of the institution, and the graduating class occupied the platform. The exercises began with prayer by the president, followed by the speeches of eleven young men of the graduating class.

DEGREES.

The degree of A. B. was conferred on 11 graduates of the year.

RECEPTION OF LIBERIAN YOUTHS.

The Rev. J. M. Dickey, D. D., president of the board of trustees, in a brief address made reference to ten African lads who, three or four days before, had arrived in this city from Liberia. "Youths from China and Japan are coming over to us," he said, "in large numbers to be educated. The governments of those heathen lands have their own ends in view in supporting these students, but God also has his purposes to be accomplished through their instrumentality. Trusting to the Christian liberality of the friends of the race and of African progress to sustain them while pursuing their studies here, the missionaries of the Presbytery of West Africa have sent these lads to us, and in the same confidence the trustees have received them. Thus is Ethiopia fulfilling the prophecy and 'stretching out her hands unto God;' sending to us her sons that through them she may receive from us a knowledge of the works, the word, and the will of God. Shall we not honor their confidence? Shall we not do for them this, which in the light of history we plainly see we owe them?"

UNIVERSITY AT LEWISBURG.

This institution includes within it a department for females as well as one for males, conducted under different roofs, but having the same presidency and government.

On Monday evening, June 23, the alumni of the university held their public exercises in Commencement Hall, when an oration was delivered by the Rev. I. C. Wynn, of Camden, New Jersey, on "The Christian scholar, the conservator of the national liberties."

On the afternoon of Tuesday, the 24th, the graduating exercises of the female department were held, when fourteen young ladies read essays or delivered addresses, and thirteen received the gold medal, which is, at Lewisburg, indicative of the attainment of a prescribed excellence in scholarship.

On Wednesday was the university-commencement, when, after prayer by Professor Bliss, thirteen young gentlemen delivered addresses and received the following degrees in course: A. B., 10; Sc. B., 3; besides 3 A. M. in course.

HONORARY DEGREES.

A. M.: on Aug. C. Norris, Kennett Square, Pennsylvania, and Hiram F. Reed, agricultural and commercial editor of *National Baptist*—2. D. D.: on Rev. William Cathcart, Philadelphia, Pennsylvania, and Rev. Charles Keyser, Trenton, New Jersey—2. LL. D.: on Professor Charles E. Hamlin, of Colby University, Maine—1.

NEW DEPARTMENT.

That of the French and German languages.

LIBRARY.

Increase of library for the year, 150 volumes.

MUHLENBERG COLLEGE, ALLENTOWN.

The quarto-centennial anniversary of what was first the Allentown Seminary, then the Allentown Collegiate Institute, and finally Muhlenberg College, was held on Wednesday evening, June 25, when a complete and interesting history of its progress upward to its present stand was given by the Rev. F. J. F. Shantz, A. M.

The commencement-exercises came on Thursday, the 26th, in the Opera-House of Allentown, when, after music, prayer, and the customary Latin salutatory, addresses in English and German were delivered by eleven students; the German evidently finding special favor in that German neighborhood. One noteworthy feature of the occasion was a well-delivered speech upon what was called "The lost art of official integrity." An address from President Muhlenberg to the graduating class was followed by the bestowment of the following degrees:

IN COURSE.

A. B., 19; A. M., 7. No honorary degrees were given.

NEW PROFESSORSHIP.

A new professorship has been reported as created and endowed with a fund of \$25,000; but neither the title of the chair nor the name of the selected incumbent are given.

ENDOWMENT-FUND.

The total amount of present endowment is reported to be \$42,000.

LIBRARY.

The library has received in the past year in gifts of books 100 volumes; in gifts of money, \$25.

LEBANON VALLEY COLLEGE, ANNVILLE.

The baccalaureate-sermon was preached on Sunday, the 8th of June, by Rev. Bishop J. Weaver, of Baltimore, to a large congregation in the college-chapel.

COMMENCEMENT.

On Thursday morning the commencement proper took place. The exercises were participated in by the graduating class of four. After music, prayer, the Latin salutatory, and orations delivered by two members of the class, the baccalaureate-degree of A. B. was conferred by the president upon a gentleman-graduate, that of A. M. on a lady, and the scientific diploma of Sc. B. upon two gentlemen.

HONORARY DEGREE.

The honorary degree of D. D. was conferred upon Bishop Glossbrenner, of Dayton, Ohio.

NEW DEPARTMENT.

A theological department has been added during the year to the curriculum of the college.

NEW PROFESSORS.

Two new professors have been appointed to fill vacancies in the chairs of natural science and moral philosophy. Names not given.

BENEFACTIONS.

The college has received since last commencement donations in money to the amount of \$2,800.

CO-EDUCATION.

The institution is open to ladies as well as to gentlemen. The two sexes recite in the same classes, while the buildings and grounds for them are separate.

DEPARTMENTS OF STUDY.

The curriculum of the college has heretofore embraced three courses, the classical, the ladies', and the scientific, each of which is separate from the rest, yet complete in itself. To these, as above mentioned, a theological one is now added.

 AGRICULTURAL COLLEGE OF PENNSYLVANIA, CENTRE COUNTY.

The commencement-exercises of this institution began on Sunday, July 27, with the baccalaureate-sermon by the president, Rev. James Calder, D. D.

COMMENCEMENT.

The regular commencement occurred on Thursday, the intervening time being occupied by class-examinations. An interesting feature of the graduating exercises was the awarding of a prize to each member of the class. One of these, the Calder prize, established by Mrs. Eliza D. Calder, was given to one of the lady graduates for excellence in cooking and laundry-work.

The class numbered five, three gentlemen and two ladies, upon each of whom was conferred the degree of Sc. B.

NEW PROFESSORS.

Two new professors were appointed during the year, namely: Hiram Collier, A. M., professor of general and agricultural chemistry and physics, and John F. Downey, Sc. M., adjunct professor of mathematics, and military instructor.

DICKINSON COLLEGE, CARLISLE.

The ninetieth anniversary of Dickinson, the thirty-sixth since its transfer from Presbyterian into Methodist hands, occurred on Thursday, June 26. As the first under the presidency of Dr. James A. McCauley, it excited more than usual interest. The only preliminary exercise of much educational importance was an oration before the alumni by Judge Walters, of Harford County, Maryland, on "The influence of college-life," in which he spoke of the special value at this day of a real education, in which a thorough knowledge is imparted and the highest measure of intellectual development secured, classing as one of the dangerous evils of the times power-worship, and as not the least dangerous form of this, a disposition to magnify mere knowledge, without due training of the heart and intellect.

The graduating class numbered 18, one having failed in the final examinations. On all these the degree of A. B. was conferred in course.

HONORARY DEGREES.

Only three honorary degrees were bestowed, that of A. M. on General Albright, of Mauch Chunk, Pennsylvania—1; that of D. D. on the Rev. William J. Stephenson, of Philadelphia—1; and that of LL. D. on the Rev. George R. Crooks, D. D., formerly professor in the college, and now of New York—1.

Of other things relating to the progress of the college no report has been received.

Table showing the degrees, honorary and in course, conferred in 1873 by the institutions mentioned.

[NOTE.—L. B.: Bachelor of Letters; A. B.: Bachelor of Arts; A. M.: Master of Arts; Ph. B.: Bachelor of Philosophy; Ph. D.: Doctor of Philosophy.]

INSTITUTIONS.	ALL CLASSES.		LETTERS.						PHILOSOPHY.			
	All degrees.		L. B.		A. B.		A. M.		Ph. B.		Ph. D.	
	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
1 Bowdoin College.....	71				40		17					
2 Bates College.....	24	4			18		6	1				1
3 Colby University.....	13	8			10		3	3				
4 Dartmouth College.....	125	14			72		17	9				
5 Univ. of Vt. and State Agr. College.....	12				12							
6 Middlebury College.....	9	4			9		2					
7 Norwich University.....	12	2			9		2					
8 Harvard University.....	219				129		18	2			2	
9 Amherst College.....	72	5			54		18	2				1
10 Williams College.....	27	13			22		5	7				
11 Boston University.....												
12 Anderson School.....												
13 Tufts College.....	24				13				1			
14 Massachusetts Agricultural College.....												
15 Worcester Free Inst. of Ind. Science.....	18											
16 College of the Holy Cross.....	7				7							
17 Mount Holyoke Seminary *.....												
18 Brown University.....	59	7			39		19	3	10	1		
19 Yale College.....	235	13			112		43	9	29		8	
20 Trinity College.....	34	4			17		15					
21 Wesleyan University.....	65	9			34		31	4				
22 University of New York.....	118	11			6		4	1				3
23 College of the City of New York.....	18				14		2					
24 College of St. Francis Xavier.....	21				19		8					
25 St. John's College.....	13				9		4					
26 Columbia College.....	182	10			20		17	3	2			
27 St. Stephen's College.....	14				14							
28 Rutgers Female College.....	8		1		7							
29 Vassar College.....	49				47		2					
30 Union College.....	37	13			30		12	4				
31 Madison University.....	58	5			36		7	2				
32 University of Rochester.....	35	3			20		12					
33 Cornell University.....	96		3		17		1		6		1	
34 St. Lawrence University.....	15				2							
35 Ingham University.....	5				3							
36 Syracuse University.....	12	8			3		6	2			1	
37 Hobart College.....	21	1			13		6					
38 Wells College for Women.....												
39 Alfred University.....	11				7		4					
40 College of New Jersey.....	151	7			76		75	1				
41 Rutgers College.....	69	12			26		18	2				1
42 Seton Hall College.....	12	1			7		5	1				
43 University of Pennsylvania.....	161	2			25		13				5	
44 Lafayette College.....	40	12			29	2		3				
45 Pennsylvania College.....	31	2			15	1	16					1
46 Swarthmore College.....	6				6							
47 Polytechnic College of Pennsylvania.....	19				17		2					
48 Franklin and Marshall College.....	25	3			14		5	2			6	
49 Lincoln University.....	11				11							
50 University at Lewisburg.....	16	5			10		3	2				
51 Muhlenberg College.....	26				19		7					
52 Lebanon Valley College.....	4	1			1		1					
53 Agricultural College of Pennsylvania.....	5											
54 Dickinson College.....	18	3			18			1				
Total.....	2,333	122	4		1,113	3	404	66	48	1	23	7

* At Mount Holyoke Seminary 48 diplomas given; no record of degrees.

Table showing the degrees, honorary and in course, &c.—Continued.

[NOTE.—Sc. B.: Bachelor of Science; Sc. M.: Master of Science; Sc. D.: Doctor of Science; Agr. B.: Bachelor of Agriculture; B. C. E.: Bachelor of Civil Engineering; C. E.: Civil Engineer; B. Min. Eng.: Bachelor of Mining Engineering; Min. Eng.: Mining Engineer; Dyn. Eng.: Dynamical Engineer; Mus. B.: Bachelor of Music; Mus. D.: Doctor of Music.]

SCIENCE.																ART.					
Sc. B.		Sc. M.		Sc. D.		Agr. B.		B. C. E.		C. E.		B. Min. Eng.		Min. Eng.		Dyn. Eng.		Mus. B.		Mus. D.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
13										2											
2		1													2						
				1																	
										4											
18																					
2																2					
5		1																		1	
2										2											
6																					
2																					
45		1										3									
6						1		18												(*)	

At Cornell University, one degree of Bachelor of Architecture, in course.

Table showing the degrees, honorary and in course, &c.—Concluded.

[NOTE.—D. B.: Bachelor of Divinity; D. D.: Doctor of Divinity; M. D.: Doctor of Medicine; D. Den. M.: Doctor of Dental Medicine; LL. B.: Bachelor of Laws; LL. D.: Doctor of Laws.]

INSTITUTIONS.	THEOLOGY.				MEDICINE.				LAW.			
	D. B.		D. D.		M. D.		D. Den. M.		LL. B.		LL. D.	
	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
1 Bowdoin College					14							1
2 Bates College				1								2
3 Colby University				3								3
4 Dartmouth College				2	21							4
5 Univ. of Vt. and State Agr. College				2								5
6 Middlebury College				2								6
7 Norwich University												7
8 Harvard University	2				41		5		30			8
9 Amherst College				1							1	9
10 Williams College				2							4	10
11 Boston University												11
12 Anderson School												12
13 Tufts College	6											13
14 Massachusetts Agricultural College												14
15 Worcester Free Inst. of Ind. Science												15
16 College of the Holy Cross												16
17 Mount Holyoke Seminary												17
18 Brown University											3	18
19 Yale College	21			1	3				15		3	19
20 Trinity College				1							2	20
21 Wesleyan University				5								21
22 University of New York				5	74				26		1	22
23 College of the City of New York												23
24 College of St. Francis Xavier												24
25 St. John's College												25
26 Columbia College				14					138		3	26
27 St. Stephen's College												27
28 Rutgers Female College												28
29 Vassar College												29
30 Union College				2							7	30
31 Madison University	9			3								31
32 University of Rochester				3								32
33 Cornell University												33
34 St. Lawrence University	7											34
35 Ingham University												35
36 Syracuse University				1								36
37 Hobart College											1	37
38 Wells College for Women												38
39 Alfred University												39
40 College of New Jersey				2							4	40
41 Rutgers College				7							2	41
42 Seton Hall College												42
43 University of Pennsylvania				1	20				8		1	43
44 Lafayette College				5							2	44
45 Pennsylvania College												45
46 Swarthmore College												46
47 Polytechnic College of Pennsylvania												47
48 Franklin and Marshall College											1	48
49 Lincoln University												49
50 University at Lewisburg				2							1	50
51 Muhlenberg College												51
52 Lebanon Valley College				1								52
53 Agricultural College of Pennsylvania												53
54 Dickinson College				1							1	54
Total	45		55	252		5		217				43

* At the University of New York, one honorary Doctor of Civil Law.
† Doctors of Sacred Theology.

CIRCULARS OF INFORMATION

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OF THE

BUREAU OF EDUCATION.

No. 4—1873.

LIST OF PUBLICATIONS BY MEMBERS OF CERTAIN COLLEGE-
FACULTIES AND LEARNED SOCIETIES IN THE UNITED
STATES, 1867-1872.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1873.

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L E T T E R.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,

Washington, D. C., September 5, 1873.

SIR: The following catalogue of the publications made during the past five years by members of college-faculties and learned societies in the United States has been prepared under direction of the Commissioner, mostly from material furnished by the authors themselves, in response to a circular letter of inquiry issued by this Bureau.

The amount of material received prevented its being included in the annual report.

In view of its value as a partial record of literary and scientific activity in the United States, I recommend its publication as a circular of information.

Very respectfully, your obedient servant,

CHAS. WARREN,
Acting Commissioner.

Hon. COLUMBUS DELANO,
Secretary of the Interior.

Approved and printing ordered.

B. R. COWEN,
Acting Secretary of the Interior.

INTRODUCTION.

The following catalogue of the works of college-professors and instructors, and of members of learned and scientific societies, published during the five years, from 1867 to 1872—the last inclusive—had its origin in the desire of the Commissioner of Education to embody in the report for 1872, in addition to as complete an exhibit as possible of the various systems of primary, secondary, and higher education in the several States, the evidence of the literary activity of the instructors of the higher institutions of learning; the more especially as the report for 1872 had been designated, by a convention of State superintendents and educators, to be used at the Exposition at Vienna as the official record of the state and progress of education in the United States.

In order to obtain material for this list of works, a circular letter, under date of October 23, 1872, was sent to a large number of colleges, worded substantially as follows:

“It is the desire of this Bureau to present in its forthcoming report a statement of all works and contributions for the past five years, on educational, scientific, and kindred topics, by gentlemen belonging to the corps of instructors in the universities and colleges, and by members of the learned societies in the United States. In addition to the names and titles of *authors, the form, size, publisher's name, and the date of publication of each work, article, or monograph* are desired.

“Your courtesy in furnishing the desired information for the institution of which you are the head will be highly appreciated, and will place the Bureau under renewed obligations.”

Replies containing the desired lists were received from thirty-one colleges and universities. Through the courtesy of Professor William D. Whitney, of Yale College, a manuscript list of the publications of the American Oriental Society, Vols. IX and X, was also received. In addition to this material the following reviews and publications were examined, and a list made of the articles and authors found in them:

Proceedings of the American Association for the Advancement of Science, Vols. XVI, XVII, XVIII, and XX, 1867, 1868, 1869, and 1871.

Transactions of the Wisconsin Academy of Science, Arts and Letters, 1870-72.

Transactions of the American Philological Association, 1871 and 1872.

Proceedings of the Academy of Natural Sciences, Philadelphia, 1867, 1868, 1869, 1870, 1871, 1872.

Check-list of publications of the Smithsonian Institution, July, 1872.

Essex Institute publications, 1869-1872.

The New Englander, 1867, 1868, 1870, 1871, 1872.

American Presbyterian Review, 1871.

Presbyterian Quarterly and Princeton Review, 1872.

Bibliotheca Sacra, 1867, 1868, 1869, 1870.

Proceedings of the National Educational Association, 1870, 1871.

The catalogue of the matter thus obtained, however incomplete it may still be, was so large that its insertion in the already too bulky volume of the report was impossible. It is now published as a circular, with a view both to show in some measure the industrious activity and labors of the college-professors outside the class-room, and to secure such corrections and additions as shall make a correct list possible.

A complete and exhaustive catalogue of all the published works, large and small, of the college-professors and instructors seems desirable, in view of the educational exhibition which it is proposed to hold in Philadelphia in 1876, as a part of the nation's record of progress. The present attempt, tentative and incomplete as of necessity such an attempt must be, seems to afford the basis and opportunity for a complete and perfect catalogue, and for this purpose it is now issued. An examination of the list will show that there has been little uniformity of plan among the several authors in the insertion or exclusion of their works. In some instances only important volumes are mentioned; in others short articles in journals and reviews are enumerated. As each title explains itself, the latter would seem the preferable method.

It is hoped that all authors whose works are here included will give notice of any changes that are needed to complete their list, and that any professors or instructors of colleges or universities, or any members of learned and scientific societies in the United States, whose works are not included in this catalogue, will send to the Bureau of Education full lists of their publications, described in accordance with the plan set down in the circular letter here reprinted. Such courtesy will be appreciated, and only in this way can the material for a complete catalogue be obtained.

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- POTTER, ELIPHALET NOTT, D. D., S. T. D., President of Union College, and Prof. of Philosophy and Evidences of Christianity.
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- PRIME, FREDERICK, JR., A. M., Professor of Metallurgy and Mineralogy, Lafayette College.
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- RAVENEL, W. H., Amer. Assoc. for the Advancement of Science.
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- ROGERS, JOSEPH, Amer. Assoc. for the Advancement of Science.
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- ROLFE, WILLIAM J., A. M., Harvard University.
- ROOD, OGDEN N., A. M., Prof. of Mechanics and Physics, Columbia Col.
- ROSS, REV. A. HASTINGS, Professor, Oberlin College.
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- SHERMAN, W. H., Amer. Assoc. for the Advancement of Science.
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- TERRY, J. P.**, Professor, Oberlin College.
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- WIND, O. H., Harvard University.
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- YOUNG, EDWARD JAMES, A. M., Hancock Professor of Hebrew and other Oriental Languages, and Dexter Lecturer on Biblical Literature, Harvard University.

I.—ADDRESSES.

BAUGHER.

Baughter (Henry L.) Sobermindedness. Baccalaureate address. 8 pp.

[In "Quarterly Review of the Lutheran Church," October, 1867.]

Goodwin (William Watson). On the relation of high-schools to colleges. Address delivered before the Massachusetts Association of High-School Teachers, October 22, 1869.

[In "Massachusetts Teacher," February, 1870.]

Holmes (Oliver Wendell). The claims of dentistry. An address delivered at the commencement-exercises of the dental department of Harvard University, February 14, 1872. 35 pp. *Boston*, 1872.

— Mechanism in thought and morals.

An address delivered before the Phi-Beta-Kappa Society of Harvard University, June 29, 1870. With notes and after-thoughts. 101 pp. *Boston and London*, 1871.

— Valedictory address, delivered to the graduating class of the Bellevue Hospital College, March 2, 1871. 23 pp. *New York*, 1871.

Peabody (Andrew Preston). Address before the Suffolk Temperance-Union, March 16, 1868.

— The Bible in common schools. Lecture before the American Institute of Instruction, July, 1870.

[In "Proceedings of the Institute."]

— The Bible the manual of morals. Address before the Massachusetts Bible Society, May 23, 1870.

— Classical culture and Phillips Exeter Academy. Address delivered at the dedication of the new academy-building for Phillips Exeter Academy, June 19, 1872.

— Manners. An address delivered at the closing exercises of Rev. G. Gannett's

WASHBURN.

Peabody (Andrew Preston)—continued. school, Boston, June 22; the Abbot Academy, Andover, June 30; the Maplewood Young Ladies' Institute, July 12, 1870.

— The relations of ethics and theology.

An address delivered before the Beloit College literary societies in July, 1871; delivered also as one of a course of lectures in Boston at Hollis-Street Church and King's Chapel.

[In "Christianity and modern thought."]

— Scientific education for mechanics and artisans. Address at the commencement of the Worcester County Free Institute of Science, July, 1872.

Note.—Now in press for the forthcoming volume of the Smithsonian Institution.

— The sovereignty of law. A lecture delivered at Mount Vernon Church and Freeman-Place Chapel, Boston.

[In "Boston Lectures, Christianity and scepticism," 1st series.]

— The testimony of the apostles. A lecture delivered in Old South Church and Freeman-Place Chapel.

[In "Boston Lectures, Christianity and scepticism," 3d series.]

— What the physician should be. Address at the commencement of the medical school of Harvard University, March 9, 1870.

Stearns (Oliver). The aim and hope of Jesus. A lecture in a course entitled "Christianity and modern thought," delivered at the request of the American Unitarian Association, and published by the same in 1872.

Washburn (Emory). Address of Ex-Governor Emory Washburn before the legislative committee to whom was referred

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Washburn (Emory)—continued.

the petition of the trustees of the Worcester Industrial Institute for the appropriation of \$50,000, February 11, 1869.

— Celebration of the one hundred and fiftieth anniversary of the organization of the town of Leicester. Address, July 4, 1871.

— The college as an element of the State. An oration pronounced before the

Washburn (Emory)—continued.

Phi-Beta-Kappa Society of Yale College, July 21, 1869.

— Law as an element of social science.

A paper read at the fourth annual meeting, Boston, October 14, 1869.

— Slavery as it once prevailed in Massachusetts. A lecture for the Massachusetts Historical Society at the Lowell Institute, January 22, 1869.

II.—ARCHÆOLOGY AND ETHNOLOGY.

ALLEN.

Allen (William F.) A handbook of classical geography, chronology, mythology, and antiquities, for the use of schools, in connection with F. P. Allen. 12°. *Boston*, 1867.

— The rural population of England as classified in Domesday Book. 11 pp. [*In* "Transactions of the Wisconsin Academy of the Sciences, Arts and Letters," 1870-72.]

Attwood (G.) On ancient ruins in Japan. *Boston*, 1872.

[*In* "Proceedings of the American Oriental Society."]

De Hass (W.) Archeology of the Mississippi Valley. 15 pp.

[*In* "Proceedings of the American Association for the Advancement of Science," 1868.]

— Report on archeology and ethnology. 2 pp.

[*In* "Proceedings of the American Association for the Advancement of Science," 1868.]

Elder (William). The aborigines of Nova Scotia.

[*In* "North American Review," January, 1871.]

Feuling (John B.) On the place of the Indian languages in the study of ethnology. 3 pp.

[*In* "Transactions of the Wisconsin Academy of the Sciences, Arts and Letters," 1870-72.]

Fiske (John). Myths and mythmakers: old tales and superstitions interpreted by comparative mythology. 12°. *Boston*, J. R. Osgood & Co., 1873.

— Twenty-six articles in the "World," 1869-71.

Gilman (Daniel Coit). On the work of the Palestine exploration fund. *Boston*, 1871.

[*In* "Proceedings of the American Oriental Society."]

Gracey (J. T.) On the hill-people of Kamaon, India. *Boston*, 1869.

[*In* "Proceedings of the American Oriental Society."]

WHITTLESEY.

Hadley (James). On the study of antiquity. Read to the Phi-Beta-Kappa Society, New Haven.

Note.—Unedited as yet.

Hartt (Charles F.) On the Botocudos of Brazil.

[*In* "Proceedings of the American Association for the Advancement of Science," 1869.]

Martin (W. A. P.) On early inventions of the Chinese. *Boston*, 1869.

[*In* "Proceedings of the American Oriental Society."]

— On the study of alchemy in China, *New Haven*, 1868.

[*In* "Proceedings of the American Oriental Society."]

McCartee (D. B.) On the religious opinions of the literary class in China. *New Haven*, 1869.

[*In* "Proceedings of the American Oriental Society."]

Parry (C. C.) On a form of the boomerang in use among the Moqui-Pueblo Indians of North America. 2 pp.

[*In* "Proceedings of the American Association for the Advancement of Science," 1871.]

Read (Ezra). Ancient dentistry. 5 pp.

[*In* "Proceedings of the American Association for the Advancement of Science," 1871.]

White (Charles A.) Ancient shell-heaps of North America.

[*In* "Proceedings of the Congrès international d'archéologie et d'anthropologie préhistoriques," *Bologna* (Italy), 1871.]

— Kjoekkenmoeddings in Iowa.

[*In* "American Naturalist," 1869.]

Whittlesey (Charles). Ancient rock-inscriptions in Ohio. [Abstract.] 2 pp.

[*In* "Proceedings of the American Association for the Advancement of Science," 1871.]

— The great mound on the Etowah River, Georgia. 5 pp.

[*In* "Proceedings of the American Association for the Advancement of Science," 1871.]

WHITTLESEY.

WYMAN.

Whittlesey (Charles)—continued.

— On the evidences of the antiquity of man in the United States. 20 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Wyman (Jeffries). Annual reports on collections of the Peabody Museum of American Archeology and Ethnology.

I to V. Cambridge, 1867-72.

Wyman (Jeffries)—continued.

— On the shell-heaps of Maine and Massachusetts.

[In "American Naturalist," 1867.]

— On the shell-heaps of Saint John's River, Eastern Florida.

[In "American Naturalist," 1867.]

III.—ART. HISTORY OF ART. ÆSTHETICS. DRAWING. MUSIC.

ABBOT.

Abbot (Ezra). *See* **Thies** (Louis).

Bascom (John). Revised edition of æsthetics. 268 pp. *New York*, 1871.

Paine (John Knowles). *St. Peter: an oratorio*. The words selected from the Bible. 174 pp. 8°. *Boston, Oliver Ditson & Co.*, 1872.

Ritter (Frederick Louis). *History of music, in the form of lectures*. 1st series. 235 pp. 16°. *Boston*, 1870.

— *Practical method for the instruction of chorus-classes*. 78 pp. 8°. *New York*, 1867.

Rood (Ogden N.) *On retouched negatives*. [*In "Philadelphia Photographer,"* February, 1867.]

— *On the truthful reproduction of original drawings by the aid of photography*. [*In "Philadelphia Photographer,"* March, 1867.]

WARREN.

Thies (Louis). *Catalogue of the collections of engravings bequeathed to Harvard University by Francis Calley Gray*. [Assisted by Ezra Abbot.] 573 pp. *Cambridge, Weld, Bigelow & Co.*, 1869.

Warren (S. E.) *Elementary drafting-instruments and operations*. *New York*.

— *Elementary linear perspective*. 12°. *New York*.

— *Elementary plane problems*. 12°. *New York*.

— *Elementary projective drawing*. 4th ed. revised. 12°. *New York*.

— *Elements of machine-construction and drawing*. Text, 8°; plates, 4°.

— *Shades and shadows*. 8°. *New York*.

IV.—BIOGRAPHY.

ALEXANDER.

Alexander (Stephen). Memoir of Professor Theodore Strong, LL. D.

Anderson (Martin B.) Sketch of the life of Professor Chester Dewey. 12 pp. 8°.

[In "Report of the Regents of the University of New York," 1869.]

Campbell (William Henry). A discourse commemorative of William Little Terhune. *New Brunswick (New Jersey)*, 1869.

Cooke. (Josiah Parsons, jr.) Memoir of Thomas Graham.

[In "Proceedings of the American Academy of Arts and Sciences," vol. viii.]

Coppée (Henry). The last of the troubadours; notice of Jacques Jasmin.

[In "Putnam's Magazine," October, 1869.]

Drialer (Henry). Discourse commemorative of the life and services of Dr. Charles Anthon. 40 pp. 8°. 1868.

Eustis (Henry Lawrence). Eulogy of Professor Mahan.

[In "Proceedings of the American Academy of Arts and Sciences," vol. viii.]

Hadley (James). On the life and character of Dr. Arnold.

Note.—Unedited as yet.

— Professor Gibbs as a scholar and teacher. Semi-centennial anniversary of the divinity-school of Yale College. 5 pp.

Hagen (Hermann August). Biography of Benjamin D. Walsh.

Hinrichs (Gustavus). A biographical sketch of Wilhelm von Hardinge. 16 pp. 1 portrait. 8°. *Davenport*, 1872.

Hovey (Alvah). Life and times of Isaac Backus.

Joynes (Edward S.) General Lee as college-president.

[In "University Monthly," 1870.]

STOEVER.

Lovering (Joseph). Eulogy of Sir David Brewster.

[In "Proceedings of American Academy of Arts and Sciences," vol. viii, pp. 38-43.]

— Eulogy of Faraday.

[In "Proceedings of American Academy of Arts and Sciences," vol. viii, pp. 31-38.]

— Eulogy of Sir John T. W. Herschel.

[In "Proceedings of American Academy of Arts and Sciences," vol. viii, pp. 461-471.]

— Eulogy of William Mitchel.

[In "Proceedings of American Academy of Arts and Sciences," vol. viii, pp. 131-134.]

Peabody (Andrew Preston). Memoir of Rev. Charles Burroughs, D. D. 1871.

— Memoir of Professor Elbridge Jefferson Cutler. 1872.

Pickering (Edward C.) Obituary of Sir Charles Babbage.

[In "Proceedings of American Academy of Arts and Sciences," May, 1872.]

Stearns (William A.) Life of Rev. Samuel Stearns, Bedford, Massachusetts. 75 pp.

[In "Congregational Quarterly," 1868.]

Stoever (M. L.) Life and labors of Augustine. 5 pp.

[In "Quarterly Review of the Lutheran Church," October, 1867.]

— Life and labors of Francke. 22 pp.

[In "Quarterly Review of the Lutheran Church," April, 1868.]

— Life and labors of Oberlin. 18 pp.

[In "Quarterly Review of the Lutheran Church," January, 1869.]

— Life and times of Ambrose. 17 pp.

[In "Quarterly Review of the Lutheran Church," April, 1870.]

— Life and writings of Flavius Josephus. 11 pp.

[In "Quarterly Review of the Lutheran Church," July, 1870.]

— Reminiscences of Rev. William Bestes. 20 pp.

[In "Quarterly Review of the Lutheran Church," July, 1868.]

STOEVER.

Stoever (M. L.)—continued.

— Reminiscences of Revs. Daniel Garver and William H. Harrison, D. D. 17 pp.
[In "Quarterly Review of the Lutheran Church," April, 1869.]

— Reminiscences of Revs. John Heck and Michael Diehl, D. D. 12 pp.
[In "Quarterly Review of the Lutheran Church," April, 1870.]

— Reminiscences of Charles Philipp Krauth, D. D. 32 pp.
[In "Quarterly Review of the Lutheran Church," January, 1868.]

— Reminiscences of Benjamin Kurtz, D. D., LL. D. 22 pp.
[In "Quarterly Review of the Lutheran Church," January, 1867.]

— Reminiscences of Revs. Martin, Henkel, Wingard, and Karn. 20 pp.
[In "Quarterly Review of the Lutheran Church," July, 1869.]

— Reminiscences of George Benjamin Miller. 21 pp.
[In "Quarterly Review of the Lutheran Church," January, 1870.]

WOOLSEY.

Stoever (M. L.)—continued.

— Reminiscences of Revs. John Caspar Stoever and Lucas Raus. 6 pp.
[In "Quarterly Review of the Lutheran Church," October, 1868.]

— Reminiscences of C. F. E. Stohlmann, D. D., and Rev. Abraham Preck. 17 pp.
[In "Quarterly Review of the Lutheran Church," July, 1870.]

Storer (Francis Humphreys). Obituary notice of Anton Rosing.
[In "American Journal of Science," 1862.]

Washburn (Emory). Memoir of Hon. Levi Lincoln. Prepared agreeably to a resolution of the Massachusetts Historical Society. Cambridge, John Wilson & Son, 1869.

Woolsey (Theodore Dwight). An address before the descendants of Jonathan Edwards, September, 1870.
[In "Edwards memorial," Boston, 1871.]

V.—EDUCATION.

ANDERSON.

Anderson (Martin B.) *The university of the nineteenth century.* Address before the National Baptist Educational Convention, Brooklyn 1870. 16 pp. 2c.

Atkinson William P.) *Classical and scientific studies and the great schools of England.* A lecture delivered before the Society of Arts, Massachusetts Institute of Technology. With additions and an appendix. 117 pp.

Barnard (Frederick A. P.) *Analysis of some statistics of collegiate education.* Printed by the trustees of Columbia College. 31 pp. 8c. 1870.

Annual report of the president of Columbia College to the trustees, 1868. 35 pp. 2c.

Annual report of the president of Columbia College to the trustees, 1869. 55 pp. 2c.

Annual report of the president of Columbia College to the trustees, 1870. 83 pp. 2c.

Annual report of the president of Columbia College to the trustees, 1871. 91 pp. 2c.

Annual report of the president of Columbia College to the trustees, 1872. 51 pp. 2c.

Early mental training. A paper read before the convention of the University of the State of New York in 1866. [*In "Four colleges of education," 1866.*]
[Reprinted by *Voltaire*. Culture demanded by modern life. 1866.]

Electric education in colleges. A paper read before the convention of the University of the State of New York, August, 1874. 40 pp. 2c.
[*In Bulletin of Educational Journal, Buffalo.*]

FOLWELL.

Chadbourne (Paul Ansel). *Colleges and college-education.*

[*In "Putnam's Magazine,"* September, 1869.]

— *Inaugural address delivered at Williams College, June 27, 1872.* 20 pp.

Chapin (Aaron L.) *Beloit College (embodying the ideas of collegiate education prevailing at the college).*

[*In New-Englander,* April, 1872.]

Crosby Howard). *Inaugural oration,* November, 1870. 8c.

Elliot (Charles William). *The new education.* [*In "Atlantic Monthly,"* February and March, 1869.]

— *Three annual reports as president of Harvard University, 1869-70, 1870-71, and 1871-72.* Pamphlets. 8c. 1871-73.

Fairchild (E. B.) *Historical sketch of Oberlin.* 1869.

Fairchild (James H.) *Co-education of the sexes.* 16 pp. 1868.

Flake (John). *Considerations on university-reform.*

[*In "Atlantic Monthly,"* April, 1867.]

— *Liberal education.*

[*In "North American Review,"* July, 1868.]

Folwell (William Watts). *Agriculture and education.* Address before the Minnesota State Agricultural Society, September 22, 1870.

— *The fair as an educating institution.* Address before the Dakota County Agricultural Society September 21, 1871.

[*In "Hastings Gazette,"* September 23, 1871.]

— *Inaugural address as president of the University of Minnesota, December 22, 1869.* 38 pp. 8c. *Minneapolis, 1869.*

— *The organization of education.* Address before the Minnesota State Teachers' Association, August 26, 1870.

[*In "Minneapolis Tribune,"* August 28, 1870.]

Folwell (William Watts)—continued.

— Report to the superintendent of public instruction of Minnesota upon the progress and condition of the university, 1869.

— Report to the superintendent of public instruction of Minnesota, upon the progress and condition of the university, 1870.

— Report to the superintendent of public instruction of Minnesota, upon the progress and condition of the university, 1871.

— Secondary education. Address at the inauguration of the Redwing Collegiate Institution, September, 1871.

— Special report to the board of regents of the University of Minnesota. 17 pp. 8°. *Minneapolis*, 1872.

— University (Minnesota) Almanac, 1871. 64 pp. 8°. *Minneapolis*, 1870.

— University (Minnesota) Almanac, 1872. 64 pp. 8°. *Minneapolis*, 1871.

— University (Minnesota) Almanac, 1873. 64 pp. 8°. *Minneapolis*, 1872.

— The university and the high-schools. 6 pp. 8°. *Minneapolis*, 1872.

Gilman (Daniel Coit). On institutions of western learning in the East. *Boston*, 1870.

[In "Proceedings of the American Oriental Society,"]

Hart (John S.). In the school-room; chapters in true philosophy of education. 276 pp. 12°. *Philadelphia*.

— The Sunday-school idea: on the object and management of Sunday-schools. 416 pp. 12°. *Philadelphia*.

Hopkins (Mark). Colleges and stability. A discourse delivered at Marietta, November 8, 1868.

Johnston (William Preston). Place and importance of history in a scheme of liberal education. 25 pp. 8°. *Richmond*, 1872.

Joyes (Edward S.). On the curriculum in schools.

[In "Virginia Educational Journal," 1872.]

Maroh (Francis Andrew). The scholar of to-day. Address before the Phi-Beta-Kappa Society at Amherst College commencement, 1863.

[In "American Presbyterian Quarterly," January, 1869. Also in pamphlet.]

Martin (W. A. P.). On the competitive-examination system in China.

[In "North American Review," July, 1870.]

Mathews (William). Getting on in the world; or, hints on success in life. 365 pp. *Chicago*, 1873.

Murray (David). Articles on the history of Rutgers College.

[In "Rutgers College Targum," 1869-70.]

Orton (James). Vassar College.

[In "Old and New," 1871.]

Owen (Richard). Discipline, domestic and scholastic.

[In western periodicals.]

— Is trial by jury applicable to colleges?

[In "Yale College Courant,"]

Porter (Noah). The American colleges and the American public.

— What books I shall read and how I shall read them.

Raymond (John H.). The demand of the age for a liberal education for women, and how it should be met.

[In "Proceedings of the National Baptist Educational Convention," held in Brooklyn, April, 1870, pp. 223-238. 8°. *New York*.]

— The mission of educated women. A baccalaureate-sermon. 16 pp. 8°. *Hackensack (New Jersey)*, 1871.

Short (Charles). Review of "Classical studies," by S. H. Taylor, LL. D.

[In "Church Journal," New York, 1870.]

Sibley (John Langdon). The annual catalogues of Harvard University (to the fall of 1871). 12°. *Cambridge*.

— Two triennial catalogues of the university, 1869, 1872. 8°. *Cambridge*.

Stearns (J. William). The question of academies in a scheme of higher education, including that of preparatory departments in colleges, and the bearing upon this question of the existence of public high-schools.

[In "Proceedings of the Western Baptist Educational Convention,"]

Stearns (William A.). Amherst College. Semi-centennial, 1821-71. 149 pp. In conjunction with other professors. *Springfield*, 1871.

Valentine (Milton). Present necessities of collegiate education. 52 pp. *Gettysburg (Pennsylvania)*, 1869.

Young (Edward James). Five pamphlets on educational and kindred topics. 8°. 1863-72.

VI.—ENGLISH LANGUAGE AND LITERATURE.

ADAMS.

Adams (Henry). *North American Review*. Edited by him. 1871-72.

Atwater (Lyman H.) Quarterly reviews, their province and function. [In "Princeton Review,"]

Carpenter (Stephen H.) English of the fourteenth century; illustrated by notes, grammatical and philological. *Boston*, 1872.

Coppée (Henry). English literature considered as an interpreter of English history. *Philadelphia*, 1873.

Ferrier (Edsall). *Loneliness of Hamlet*. 15 pp. [In "Quarterly Review of the Lutheran Church," April, 1870.]

—— Method of studying the English language. 10 pp. [In "Quarterly Review of the Lutheran Church," January, 1871.]

—— Novels. 9 pp. [In "Quarterly Review of the Lutheran Church," October, 1868.]

—— Recent works on English literature. 11 pp. [In "Quarterly Review of the Lutheran Church," July, 1872.]

—— Tennyson. 11 pp. [In "Quarterly Review of the Lutheran Church," July, 1870.]

Fiske (John). *Taine's history of English literature*. Edited, with chronological table, notes, and index. 8°. *New York*, *Holt & Williams*, 1872.

Grier (John Boyd). *Studies in the English of Bunyan*. 12°. *Philadelphia*.

Hadley (James). Notes on Koch's treatment of the Celtic element in English. Read to the Classical and Philological Society, March, 1872.

HART.

Hadley (James)—continued.

—— Notice of Abbott's "Shakesperian grammar." [In "The Nation," No. 294, February 16, 1871.]

—— Notice of H. Corson's "Hand-book of Anglo-Saxon and early English." [In "The Nation," No. 310, June 8, 1871.]

—— Notice of Earle's "Philology of the English tongue." [In "The Nation," No. 349, March 7, 1872.]

—— Notice of A. J. Ellis's "Early English pronunciation." [In "North American Review," vol. cx, 1870, pp. 420-437.]

—— Notice of Furness's "New variorum edition of Shakespeare." Vol. I, *Romeo and Juliet*. [In "The Nation," No. 305, May 4, 1871.]

—— Notice of Longfellow's "New England tragedies." [In "New-Englander," vol. xxviii, 1869, pp. 797-801.]

—— Notice of F. A. March's "Comparative grammar of the Anglo-Saxon language." [In "The Nation," No. 281, November 17, 1870.]

—— Notice of M. Schele de Vere's "Americanisms." [In "New-Englander," vol. xxxi, 1872, pp. 394-396.]

—— Notice of M. Schele de Vere's "Studies in English." [In "New-Englander," vol. xxvi, 1867, pp. 791-794.]

—— Notice of Tennyson's "Holy grail and other poems." [In "New-Englander," vol. xxix, 1870, pp. 351-357.]

—— On English vowel-quantity in the thirteenth century and in the nineteenth. [In "Transactions of American Philological Association," 1870, pp. 65-107.]

Hart (John S.) *Composition and rhetoric*. 384 pp. 12°. *Philadelphia*.

John S.)—continued.

First lessons in composition. 168 pp. Philadelphia.

A manual of American literature. p. 8°. Philadelphia.

A manual of English literature. 636 8°. Philadelphia.

A short course in literature, English American. 384 pp. 12°. Philadelphia.

(Frederick Henry). The prose-
rs of Germany. 16°. Boston, Rob-
broters, 1869.

(George Frederick). English
mar.

Series of readers.

(Oliver Wendell). The guardian-
l. 420 pp. Boston and London, 1867.

The poet at the breakfast-table. 418
Boston and London, 1872.

ick (Asahel C.) Our poetical favor-
473 pp. 12°. New York, 1872.

l (James Russell). Among my books.
lume of essays. 12°. Boston, Ticknor
lds, 1870.

My study-windows. A volume of es-
12°. Boston, Ticknor & Fields, 1871.

(Francis Andrew). Anglo-Saxon
mar. 8°. New York.

The Anglo-Saxon language.

PPLTON's "New American Cyclopaedia" and
THOMAS's "New Cyclopaedia.")

The Anglo-Saxon literature.

March (Francis Andrew)—continued.

— Anglo-Saxon reader. 8°. New York.

— English and Anglo-Saxon pronuncia-
tion.

[In "Proceedings of the American Philological
Association," 1871.]

— The English of Shakespeare.

[In "North American Review," July, 1867.]

— Is there an Anglo-Saxon language?

[In "Proceedings of the American Philological
Association," 1871.]

— Method of philological study of the
English language. 12°. New York.

— Mode of teaching English in high-
schools.

[In "Proceedings of the National Educational As-
sociation," 1872.]

— Parser and analyzer. 16°. New
York.

— Some irregular verbs in Anglo-Saxon.

[In "Proceedings of the American Philological
Association," 1871.]

Peabody (Andrew Preston). Reminiscences
of European travel. 16°. New York, Hurd
& Houghton.

Peirce (Charles Sanders). Notice of Berke-
ley's works.

[In "North American Review," 1872.]

— Various book-notices, &c.

[In "The Nation."]

Schele de Vere (M.) Americanisms. New
York, 1872.

— Studies in English. New York, 1868.

VII.—GEOGRAPHY AND TRAVELS.

BROCKLESBY.

Brocklesby (John). Elements of physical geography. 164 pp. Philadelphia, 1868.

Coppée (Henry). An adventure on the Cornice in Italy.

[In "Penn Monthly," January, 1872.]

— A glimpse of Granada.

[In "Appleton's Journal," December, 1871.]

— The great Spanish weathercock.

[In "Appleton's Journal," August, 1870.]

Guyot (Arnold). Series of geographies. 4°. New York.

Orton (James). Amazon and Andes.

[In APPLETON'S "New American Cyclopædia," 1872.]

— The Andes and the Amazon; or, across the continent of South America. Crown 8°. 356 pp. New York, 1870.

Owen (Richard). The mountains of Palestine.

[In western periodicals.]

— A series of letters written during the summer and autumn, 1869, while traveling in Europe, Asia, and part of Africa.

[In New York semi-weekly "Tribune" and Evansville "Daily Journal."]

Parry (C. C.) The habitable features of the North American continental plateau near the line of the thirty-fifth parallel of north latitude. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

WHITNEY.

Shedd (J. H.) Journal of a tour from Orûmiah to Hamadan. New Haven, 1871.

[In "Proceedings of the American Oriental Society."]

Wells (William). African exploration.

[In "Methodist Episcopal Quarterly Review."]

— The Jews of Roumania.

[In "Methodist Episcopal Quarterly Review."]

— Russian progress.

[In "Methodist Episcopal Quarterly Review."]

Wheddon (William W.) The new arctic continent, or Wrangell's Land, discovered August 14, 1867, by Captain Lang of the American ship "Nile," and seen by Captains Raynor, Bliven, and others; with a brief notice of Baron Wrangell's explorations in 1823. 7 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Whitney (Josiah Dwight). Various topographical maps of portions of the State of California.

— The Yosemite book. 4°. With photographic illustrations and maps.

— The Yosemite guide-book.

Note.—Two editions, one in small quarto and one in 16mo. with maps; the small-quarto edition with wood-cut illustrations.

VIII.—HISTORY.

ALLAN.

- Allan** (William). Battle of Gettysburg. 30 pp.
[In "Southern Review," 1869.]
- Battlefields of Virginia, Chancellorsville. 150 pp. 8°. *New York*, 1867.
- General Pope's campaign. 30 pp.
[In "Southern Review," 1871.]
- Baird** (Henry M.) The French conquest of Lorraine and Alsace.
[In "Scribner's Magazine," February, 1871.]
- The massacre of St. Bartholomew's day.
[In "Methodist Quarterly Review," July, October, 1869.]
- Review of Mommsen's Rome and Curtius's Greece.
[In "Methodist Quarterly Review," July, 1870, October, 1871.]
- Coppée** (Henry). Queen Mary and her slayers.
[In "Penn Monthly," November, 1872.]
- Ferrier** (Edsall). Franco and the allied powers at Waterloo. 19 pp.
[In "Quarterly Review of the Lutheran Church," July, 1871.]
- Lessons of the Franco-Prussian war. 17 pp.
[In "Quarterly Review of the Lutheran Church," January, 1872.]
- Gurney** (Ephraim Whitman). North American Review in 1869, 1870, 1871. Edited by E. W. Gurney.
- Hadley** (James). Notice of Curtius's "History of Greece." Vol. 1.
[In "The Nation," No. 301, April 6, 1871.]
- Notice of Curtius's "History of Greece." Vol. 2.
[In "New-Englander," vol. xxxi, 1872, pp. 3-7-390.]
- Notice of Mommsen's "History of Rome." Vol. 4.
[In "New-Englander," vol. xxxi, 1872.]

WOOLSEY.

- Hadley** (James)—continued.
—— Notices of Mommsen's "History of Rome." Vol. 1-2.
[In "New-Englander," vol. xxix, 1870, pp. 168-171.]
- Holmes** (George Frederick). School-history of the United States.
- Holmes** (Oliver Wendell, jr.) Summary of events.
[In "American Law Review," before and since becoming editor.]
- Johnston** (William Preston). Origin of myth. 20 pp. 8°. *Louisville (Kentucky)*, 1872.
- Kroeh** (C. F.) The ancient history of North America. Published by the Smithsonian Institution.
—— Wendell Phillips on the Franco-Prussian war.
- Pearson** (Jonathan). Contributions for the genealogies of the first settlers of the ancient county of Albany, 1630-1800. 182 pp. 4°. *Albany*.
—— Contributions for the genealogies of the first settlers of Schenectady, 1662-1800. 250 pp. *Albany*, 1873.
- Early records of the city and county of Albany and colony of Rensselaerswyck, 1665-75. Translated from the original Dutch, with notes. 588 pp. Royal 8°. *Albany*, 1869.
- Woolsey** (Theodore Dwight). On the Alabama question.
[In "New-Englander," July, 1869.]
- Review of Professor Bernard's "British neutrality."
[In "North American Review," October, 1870.]

IX.—LAW.

GREEN.

- Green** (Nicholas St. John). Married women. 17 pp.
[In "American Law Review," October, 1871, vol. vi, p. 57.]
- Slander and libel. 21 pp.
[In "American Law Review," July, 1872, vol. vii, p. 593.]
- Holmes** (Oliver Wendell, jr.) American digest.
[In "American Law Review," from April, 1868, to October, 1869, both inclusive.]
- American law review. 8°. Edited by him, beginning with vol. 5, No. 1, October, 1870. Formerly with A. G. Sedgwick; latterly alone.
- The arrangement of the law. 21 pp.
[In "American Law Review," vol. vii.]
- Codes and the arrangement of the law. 13 pp.
[In "American Law Review," vol. v.]
- English digest.
[In "American Law Review," October, 1868, and also in all the numbers of vol. iv.]
- Misunderstandings of the civil law. 13 pp.
[In "American Law Review," vol. v.]
- New edition of Kent's commentaries. The notes since his death being wholly re-written.
Note.—This is substantially finished and about half printed, but not yet published.
- Supreme Court digest.
[In "American Law Review," January, 1869.]
- Ultra vires. 8 pp.
[In "American Law Review," vol. v.]

WOOLSEY.

- Langdell** (Christopher Columbus). A selection of cases on the law of contracts, with references and citations. 1022 pp. 8°. Boston, Little, Brown & Co., 1870.
- A selection of cases on sales of personal property, with references and citations. 1039 pp. 8°. Boston, Little, Brown & Co., 1872.
- Minor** (John B.) Abstract of course of common law. 1870.
- Peirce** (Benjamin). Testimony in the Howland will case. [An investigation on principles of probability, of a question of handwriting.]
[In "Report of the case," 1870.]
- Washburn** (Emory). Lectures on the study and practice of the law. Delivered in the law-school of Harvard University. 3d ed. Boston, Little, Brown & Co., 1872.
- A treatise on the American law of easements and servitudes. 2d ed. Boston, Little, Brown & Co., 1867.
- A treatise on the American law of real property. Vols. 1, 2, 3. 3d ed. Boston, Little, Brown & Co., 1868.
- Woolsey** (Theodore Dwight). Essays on divorce and divorce-legislation. 3d ed., with considerable additions. New York, C. Scribner & Co., 1871.

X.—MATHEMATICAL SCIENCES, INCLUDING ASTRONOMY.

ABBE.

KIRKWOOD

Abbe (Cleveland). The resuscitation of the Cincinnati observatory. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Alexander (Stephen). Report of observations on the total solar eclipse of 1869.

Barnard (Frederick A. P.) The metric system of weights and measures. 194 pp. 8°. New York, 1872.

— Progress of metrological reform during the last one hundred years. Lecture before the Polytechnic Society of the American Institute, 1872. 25 pp. 8°.

[In "Proceedings of the Polytechnic Society of the American Institute," 1872.]

Brooklesby (John). Elements of astronomy for schools and academies. 24th ed. 351 pp. New York, 1870.

Dean (George W.) Longitude-determination across the continent. 11 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Eaton (James H.) A key to Eaton's common school arithmetic.

— The metric system.

Elliott (E. B.) On the rates of interest realized to investors in the securities of the United States. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Ennis (Jacob). The four great eras of modern astronomy. 18 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— The meteors and their long-enduring trails. 37 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Ficklin (Joseph). To find a general form for the length of curves of pursuit. 1

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Foucou (Felix). On the construction of three maps of Europe, France and North America, in the gnomonic projection, and a view to the distribution of mineral wealth and the study of the earth's figure. 2

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Hilgard (J. E.) An application of an essential function. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— On the use of the zenith-telescope observations of time. 12 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Hough (G. W.) Remarks on meteorological results deduced from the new method of registration. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

— Remarks on personal equation transit-observations. 1 p.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Kirkwood (Daniel). Astro-meteorology. [In "Popular Science Monthly," July, 1872.]

— Changes in celestial scenery.

[In "Our Monthly," July, 1871.]

— Meteoric astronomy. A treatise on shooting-stars, fire-balls and aerolites. Philadelphia, 1867.

— The meteors of November 13-14, 1868.

[In "Monthly Notices of the Royal Astronomical Society," December, 1867.]

— Meteors of November 13-14, 1868.

[In "Monthly Notices of the Royal Astronomical Society," December, 1868.]

— The milky way.

[In "Our Monthly," June, 1872.]

Kirkwood (Daniel)—continued.

- On binary stars. A paper read at the Dubuque meeting of the American Association for the Advancement of Science, August, 1872.
- On certain relations between the mean motions of the perihelia of Jupiter, Saturn, Uranus, and Neptune.
[In "American Journal of Science and Arts," September, 1872.]
- On comets and meteors.
[In "Proceedings of the American Philosophical Society," vol. x, pp. 215-220.]
- On the disintegration of comets.
[In "Nature," June 20, 1872.]
- On the formation and primitive structure of the solar system.
[In "Proceedings of the American Philosophical Society," October 6, 1871.]
- On the great sun-spot of June, 1843.
[In "American Journal of Science and Arts," April, 1871.]
- On the mass of the asteroids between Mars and Jupiter.
[In "Proceedings of the American Philosophical Society," vol. 10, p. 498.]
- On the mean motions of Jupiter, Saturn, Uranus, and Neptune.
[In "American Journal of Science," March, 1872.]
- On the nebular hypothesis and the approximate commensurability of the planetary periods.
[In "Monthly Notices of the Royal Astronomical Society," January, 1869.]
- On the origin of the comets of 1812 and 1846.
[In "American Journal of Science and Arts," September, 1869.]
- On the periodicity of the solar spots.
[In "Proceedings of the American Philosophical Society," vol. x, pp. 94-102.]
- On the periods of certain meteoric rings.
[In "Proceedings of the American Philosophical Society," vol. x, pp. 299-300.]
- On some remarkable relations between the mean motions of the four outer planets.
[In "Proceedings of the American Philosophical Society."]
- On the testimony of the spectroscope to the truth of the nebular hypothesis.
[In "American Journal of Science and Arts," September, 1871.]
- Total eclipses of the sun.
[In "Our Monthly," November, 1871.]

Loomis (Elias). Comparison of the mean daily range of the magnetic declination with the number of auroras observed each

Loomis (Elias)—continued.

- year and the extent of the black spots on the surface of the sun. 18 pp. with chart. 8°. [In "American Journal of Science," September, 1870.]
- Elements of astronomy, designed for academies and high-schools. 254 pp. 12°. 1869.
- Elements of geometry, conic sections, and plane trigonometry. 386 pp. 8°. 1871.
- Influence of the moon upon the weather. 4 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1868.]
- A treatise on algebra. 334 pp. 8°. 1868.
- Lovering (Joseph).** On the periodicity of the aurora borealis. 7 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- On the republican calendar of France.
[In "Proceedings of the American Academy of Sciences," vol. viii, pp. 348-364.]
- Lyman (C. S.)** Observations of Venus near inferior conjunction. 2 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Mayer (Alfred M.)** An abstract of some of the results of the measurements and examinations of the photographs of the total solar eclipse of August 7, 1869.
[In "Proceedings of the American Philosophical Society," Philadelphia.]
- Observations on the planet Jupiter.
[In "Journal of the Franklin Institute," 1870.]
- Observations of the solar protuberances.
[In "Journal of the Franklin Institute," 1869.]
- On a new spectroscope and contributions to the spectral analysis of the stars.
[Translation for "Journal of the Franklin Institute," 1869.]
- On the temperature and physical condition of the sun.
[In "Journal of the Franklin Institute," 1871.]
- Report on the total eclipse of August 7, 1869.
[In "Journal of the Franklin Institute," 1869.]
- McDermott (Michael).** On the heliostat and method of running true or meridian lines. 6 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1868.]
- Mitchell (Maria).** Jupiter and its satellites.
[In "Silliman's Journal," May, 1871.]
- Murray (David).** Manual of land-surveying. New York, 1872.
- Newcomb (Simon).** On Hansen's theory of the physical constitution of the moon. 4 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Norton (William A.) On the corona seen in total eclipses of the sun.

[In "American Journal of Science," September, 1870.]

— On the physical constitution of the sun.

[In "American Journal of Science," June, 1871.]

— A treatise on astronomy, spherical and physical. 4th ed., revised and enlarged. 558 pp. 8°. New York, 1867.

Nourse (Joseph E.) The maritime canal of Suez: brief memoir of the enterprise from the earliest date, and comparison of its probable results with those of a ship-canal across Darien. (With map and plates.) 57 pp. 8°. Washington, D. C., Philp & Solomons, 1870.

Peck (William G.) Calculus. 12°. New York.

Peirce (Benjamin). Communication of vibrations. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

— Linear associative algebra. 153 pp. Lithog. 4°. Washington, 1870.

— Mean motions of the four outer planets.

[In "Proceedings of the American Academy of Sciences," vol. viii, p. 336.]

— Reports of the Superintendent of the United States Coast Survey. 4°.

— The Saturnian system. 24 pp. 4°.

Peirce (Charles Sanders). On an improvement in Boole's "Calculus of logic."

[In "Proceedings of the American Academy of Sciences," vii, pp. 250-261.]

— On the natural classification of arguments.

[In "Proceedings of the American Academy of Sciences," vii, pp. 261-267.]

— On a new list of categories.

[In "Proceedings of the American Academy of Sciences," vii, pp. 267-278.]

— On photometry and the new photometer of the observatory of Harvard College. A communication to the American Academy, 1872.

— Upon the logic of mathematics.

[In "Proceedings of the American Academy of Sciences," vii, pp. 402-412.]

Peirce (James Mills). Aspect.

[In "Nature," 1871.]

— Three and four place tables of logarithmic and trigonometric functions. 16 pp. Large 8°. Boston, 1871.

Pickering (Edward C.) The eclipse of 1870.

[In "Old and New," May, 1871.]

Pickering (Edward C.)—continued.

— List of observations of the polarization of the corona.

[In "Journal of the Franklin Institute," January, 1871; and in "Nature," December, 1870.]

— Observations of the corona during the total eclipse of August 7, 1869.

[In "Philosophical Magazine," October, 1869.]

— Observations on the eclipse, with an Arago polariscope, at Mount Pleasant, Iowa. 1 p.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— On the diffraction produced by the edges of the moon.

[In "Journal of the Franklin Institute," April, 1870.]

— Report on the eclipse of 1869.

[In "Journal of the Franklin Institute,"]

Quinby (Isaac F.) Robinson's new differential and integral calculus. New York, 1868.

Robinson (Otis H.) On the methods of studying and teaching mathematics. 12 pp. 8°.

[In "Report of the regents of the University of New York," 1869.]

Rogers (William Augustus, assistant at Harvard College observatory). Definitive elements of Elpis, with perturbations of Jupiter and Saturn.

[In "Astronomische Nachrichten," vol. 68, p. 177.]

— Definitive elements of Mnemosyne, with perturbations of Jupiter and Saturn.

[In "Astronomische Nachrichten," vol. 68, p. 225.]

— Elements and ephemeris of Echo for opposition of 1867.

[In "Astronomische Nachrichten," vol. 69, p. 223.]

— Elements and ephemeris of Felicitas for the opposition of 1871; and also for the opposition of 1872.

[In "Astronomisches Jahrbuch," 1871-72, Berlin.]

— Elements of Felicitas.

[In "Astronomische Nachrichten," vol. 75, p. 166.]

— Elements of Felicitas from observations of the first and second oppositions.

[In "Astronomische Nachrichten," vol. 78, p. 217.]

— Elements of Felicitas from three normal places.

[In "Astronomische Nachrichten," vol. 75, p. 331.]

— Elements of Felicitas from observations of the first opposition.

[In "Astronomische Nachrichten," vol. 75, p. 381.]

— A new formula for the reduction of observations in the prime vertical, analogous to Mayer's formula for the reduction of meridian observations. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Rogers (William A.)—continued.

— Observations of Angelina, Metis, and Lutetia.

[In "Astronomische Nachrichten," vol. 76, p. 299.]

— Observations of Circe.

[In "Astronomische Nachrichten," vol. 71, p. 365.]

— Observations of Elpis and Mnemosyne.

[In "Astronomische Nachrichten," vol. 69, p. 251.]

— Observations of Felicitas.

[In "Astronomische Nachrichten," vol. 76, p. 61.]

— On the determination of geographical latitude from observations in the prime vertical. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

— On the determination of latitude from observations in the prime vertical. A monogram. 43 pp. *New Haven*, 1869.

— On the variability of personal equation in transit-observations.

[In "Silliman's Journal," vol. 47, p. 297.]

— On a method of etching lines on glass, and a new ruling-apparatus. A communication to the American Academy.

— On the performance of the new meridian circle of the observatory of Harvard College. A communication to the American Academy of Arts and Sciences in 1872.

Safford (Truman Henry). *Annals of Harvard College Observatory.* Vol. 5.

— On mathematical teaching.

[In "Illinois Teacher" and in "Proceedings of the National Educational Association."]

— Reports of progress in the star-catalogue.

[In "Quarterly Journal" [Vierteljahrsschrift] of the German Astronomical Society, October, 1869, and October, 1871.]

— Star-catalogue for the United States land-survey, reported to General C. B. Comstock, United States engineers. 1872.

Seaver (Edwin Pliny). The formulas of trigonometry, collected and arranged for students and computers. 53 pp. *Demi 8°.* Boston and Cambridge, *Sever, Francis & Co.*, 1871.

Stockwell (J. N.) An inquiry concerning the physical relation between the masses and mean distances of the different planets. 13 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— Remarks on the secular variations in the planetary orbits. 8 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Twining (Alexander C.) A demonstration of Euclid's assumed axiom relative to parallel lines. 6 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Venable (Charles S.) *Elementary algebra* for schools and colleges.

— Series of arithmetics for schools. *New York*, 1867-69.

Warren (S. E.) *Descriptive geometry.* 8°.

White (Charles Joyce). The elements of theoretical and descriptive astronomy, for the use of colleges and academies. 2d ed. 272 pp. *Philadelphia, Claxton, Remsen & Haffelfinger*, 1872.

Winlock (Joseph, director of Harvard College observatory). *Annals of the observatory of Harvard College.* Vol. ii (part ii) and v-vii. 1867-71.

Note.—These volumes contain about 320 quarto-pages each. Of vol. viii about 200 pages are in type.

— Comparison-stars observed with the new meridian-circle of Harvard-College observatory.

[In "Astronomische Nachrichten," vol. 73, No 1861.]

Note.—Sixty-five complete determinations of star-places.

— A communication showing the great similarity in the form of the corona as photographed in 1860, 1869, and 1870, not only in the general outline, but also in the principal depressions. 1871.

— An improvement in the spectroscope by which the lines of spectra may be recorded automatically without interrupting the observer during the observations.

[In "Proceedings of the American Academy of Arts and Sciences," 1870.]

— Observations of asteroids made with the fifteen-inch equatorial of the observatory of Harvard College: Hebe, (6); Egeria, (13); Massalia, (20); Themis, (24); Leucothea, (35); Isis, (42); Aglaia, (47); Calypso, (53); Asia, (67); Eurydice, (75); Terpsichore, (81); Thisbe, (88); Undina, (92); Arethusa, (95); Flora, (9); Eunomia, (15); Lutetia, (21); Proserpina, (36); Leda, (38); Ariadne, (43); Nemausa, (51); Danae, (61); Leto, (68); Eurynome, (79); Alcmene, (82); Julia, (89); Minerva, (93); Parthenope, (11); Melpomene, (18); Calliope, (33); Circe, (34); Daphne, (41); Eugenia, (45); Europa, (52);

Winlock (Joseph)—continued.

Ausonia, (83); Galatea, (74); Sappho, (80);
Beatrix, (88); Antiope, (90); Aurora, (94).

[In "Astronomische Nachrichten," vol. 71, No. 1695.]

Note.—This communication gives the results of 1820 micrometer-observations.

— Observations of asteroids and Comet I, 1867, made with the fifteen-inch equatorial of the observatory of Harvard College: Melete, (56); Antiope, (90); Beatrix, (88); Melpomene, (19); Nysa, (44); Pomona, (32); Ægina, (91); Ausonia, (63); Julia, (99); Mne-mosyne, (57); Panopæa, (70); Thisbe, (88); Nemausa, (51); Parthenope, (11); Virginia, (50); Comet I, 1867.

[In "Astronomische Nachrichten," vol. 69, No. 1638.]

Note.—This communication gives the results of 1157 micrometer-observations.

— Observations and elements of Comet II, 1867, obtained at the observatory of Harvard College.

[In "Astronomische Nachrichten," vol. 70, No. 1659.]

Note.—This communication gives the results of 68 micrometer-observations, with elements deduced from them by Mr. G. M. Searle. They furnish the only data from which it was ascertained that this was a periodic comet.

— On a new method of photographing the sun by using a long telescope, placed horizontally, and using a heliostat to reflect the light of the sun through it.

[In "Proceedings of the American Academy of Arts and Sciences," 1870.]

Note.—Negatives taken in January were exhibited.

— On the spectrum of the aurora and on the spectrum of Winnecke's comet.

[In "Silliman's Journal," vol. xlviii, pp. 123 and 405.]

— On the spectrum of the nebula in Orion and other nebulæ, and on the zodiacal light.

[In "Proceedings of the American Academy of Arts and Sciences," 1868.]

— On the total eclipse of the sun.

[In "Silliman's Journal," vol. xlviii, p. 431.]

— Reduction-tables of Harvard-College observatory. 62 pp. 1872.

— Report on the observations of the total eclipse of the sun of August 7, 1869, made in Kentucky.

[Appendix No. 8 to United States Coast Survey Report for 1869.]

Note.—This report also contains the reports of Mr. C. S. Peirce and Mr. Arthur Searle, assistants at the observatory of Harvard College.

Winlock (Joseph)—continued.

— Report on the zone-observations of the observatory of Harvard College.

[In "Vierteljahrsschrift der astronomischen Gesellschaft," Leipzig, 1870.]

Note.—The observations were made between November 10, 1870, and July 10, 1871, with the new meridian-circle. Whole number of observations, 11,882.

— Results in right ascension of 156 fundamental stars observed with the meridian-circle of the Harvard-College observatory.

[In "Astronomische Nachrichten," vol. 80, No. 1909.]

Note.—About 900 observations.

— Seventeen plates (quarto) of astronomical engravings, embracing views of Jupiter; Saturn; the sun; sun-spots; solar prominences; moon-craters; the total eclipse of the sun of August 7, 1869, from photographs taken at Shelbyville, Kentucky; and of the total eclipse, taken at Xeres de la Frontisa, Spain, etc. 1872.

REMARKS.—Several other communications have been made by the author to the American Academy of Arts and Sciences, of which he has not the means of giving the dates; also, to the Boston daily papers, of which the dates can not be ascertained, relating to observations of meteors, spectra of zodiacal light, meteorological observations, etc. In one of these it was announced, for the first time, that the aurora could be observed with a hand-spectroscope, without the aid of a large telescope. This method is now in general use.

Young (Charles Augustus). Account of the Sherman expedition.

[In "Nature," December, 1872.]

— Account of the Spanish eclipse.

[In "Journal of the Franklin Institute," February, 1871.]

— Catalogue of 273 bright lines in spectrum of solar atmosphere.

[In "American Journal of Science and Arts," November, 1872.]

— The chromosphere.

[In "Boston Journal of Chemistry," August, 1872.]

— The eclipse.

[In "The Dartmouth," September, 1869.]

— Encke's comet.

[In "Boston Journal of Chemistry," January, 1872.]

— Encke's comet.

[In "American Journal of Science and Arts," February, 1872.]

— Explosion on the sun.

[In "Boston Journal of Chemistry," November, 1871.]

— Holtz electrical machine.

[In "Boston Journal of Chemistry," June, 1872.]

— Letters from Spain [2].

[In "The Dartmouth," March and April, 1871.]

Young (Charles Augustus)—continued.

- Letter on Browning's spectroscope.
[In "Nature," February, 1871.]
- Letter on the solar corona.
[In "Nature," March, 1870.]
- Letter on spectroscopic nomenclature.
[In "Nature," June, 1872.]
- Letter on spectrum of corona.
[In "Nature," November, 1872.]
- Magnetometer-indications.
[In "Boston Journal of Chemistry," December, 1871.]
- Method of determining level-error in the axis of a transit-instrument.
[In "American Journal of Science and Arts," November, 1870.]
- Note on the spectrum of the corona.
[In "American Journal of Science and Arts," July, 1871.]
- An observation of contacts at sun's limb, &c.
[In "American Journal of Science and Arts," November, 1869.]
- On a new method of observing the first contact of the moon with the sun's limb at a solar eclipse, by means of the spectroscope. 3 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1869.]
- On the solar corona.
[In "American Journal of Science and Arts," May, 1871.]
- The planet Saturn.
[In "Boston Journal of Chemistry," November, 1872.]
- Preliminary catalogue of 103 chromosphere-lines.
[In "American Journal of Science and Arts," November, 1871.]
- Recurrent vision.
[In "American Journal of Science and Arts," March, 1872.]
- Report on the eclipse. [To the Nautical Almanac Office.] 1869.
Note.—Not yet printed.
- Report on meteoric observations.
[In "New Hampshire Statesman,"

Young (Charles Augustus)—continued.

- Report on the Spanish eclipse.
[In United States Coast Survey.]
Note.—Not yet published.
- Review of Proctor's essays on astronomy.
[In "New York Independent," August, 1872.]
- Solar auroral theory.
[In "Nature," February, 1871.]
- Solar eclipse of December, 12, 1871;
1st paper.
[In "Boston Journal of Chemistry," March, 1872.]
- Solar eclipse of December 12, 1871;
2d paper.
[In "Boston Journal of Chemistry," April, 1872.]
- Solar spectrum.
[In "Nature," February, 1871.]
- Spectroscopic notes.
[In "Journal of the Franklin Institute," August, October, and November, 1869.]
- Spectroscopic notes. [Two numbers.]
[In "Journal of the Franklin Institute," June, October, and November, 1870.]
- Spectroscopic notes.
[In "Journal of the Franklin Institute," November, 1871.]
- Spectroscopic notes.
[In "Journal of the Franklin Institute," November, 1872.]
- Spectroscopic observations of American eclipse-party in Spain.
[In "Nature," February, 1871.]
- Spectrum observations at Burlington, Iowa, during the eclipse of August 7, 1869. 4 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1869.]
- The sun and the phenomena of its atmosphere. A lecture delivered at New Haven.
[In No. 8, "Chatfield's University Series," New Haven, May, 1872.]
- Sun-spots.
[In "Boston Journal of Chemistry," September, 1872.]
- Two papers on observations of the late eclipse.
[In "Proceedings of the American Association for the Advancement of Science," 1869.]

XI.—MEDICINE.

AMORY.

Amory (Robert). Anæsthesia in a certain stage of membranous croup.

[In "Boston Medical and Surgical Journal," 1869.]

— Atropine in tetanus, with experiments.

[In "Boston Medical and Surgical Journal," 1869.]

— Contributions to the study of veratrum viride and veratria.

[In "Boston Medical and Surgical Journal," 1869.]

— Experiments and observations on absinthe and absinthism.

[In "Boston Medical and Surgical Journal," 1868.]

— On chloral-hydrate. Experiments showing that it is not decomposed into chloroform in the living organism.

[In "New York Medical Journal," 1872.]

— Physiological action of caffeine and theine.

[In "Boston Medical and Surgical Journal," 1868.]

— Physiological action of nitrous oxide on man and lower animals.

[In "New York Medical Journal," 1870.]

— Physiological and therapeutical action of bromides of potassium, ammonia, and kindred salts (in conjunction with E. H. Clarke, M. D.) *Boston, James Campbell, 1872.*

— Some of the pathological conditions of poisoning by hydrocyanic acid.

[In "Practitioner," 1872.]

Beach (Henry Harris Aubrey). Foreign body in the appendix vermiformis.

[In "New York Medical Journal," 1871.]

— On ligature of the subclavian artery.

[In "Medical Times and Gazette," 1871.]

— On a sinus-dilator.

[In "Boston Medical and Surgical Journal," 1871.]

— On the treatment of gonorrhœa by the sandal-wood oils.

[In "Boston Medical and Surgical Journal,"]

BLAKE.

Beach (Henry Harris Aubrey)—continued.

— Report of a case of intussusception.

[In "Boston Medical and Surgical Journal," 1871.]

— Report of cases of hip-joint dislocation at the Massachusetts General Hospital.

[In "Boston Medical and Surgical Journal," 1871.]

REMARKS.—Also, various reports of operations; lectures; critical reviews in "Boston Medical and Surgical Journal;" and editorial work upon the same, from 1866 to 1871.

Bigelow (Henry Jacob). Medical education in America. Annual address before the Massachusetts Medical Society, June 7, 1871.

[In "Transactions of Massachusetts Medical Society,"]

— Nitrous-oxide gas used in 1848 for surgical purposes.

[In "Boston Medical and Surgical Journal," 1868.]

— Practical views of the treatment of fractures and dislocations of the elbow-joint, and on the impropriety of passive motion.

[In "Boston Medical and Surgical Journal," 1868.]

— A treatise on the mechanism of dislocation and fracture of the hip. *Boston, 1870.*

REMARKS.—Also occasional papers published from time to time in the "Boston Medical and Surgical Journal."

Blake (Clarence John). Caries of the meatus.

[In "Transactions of the American Otological Society," 1872.]

— Diagnostic value of the tuning-fork.

[In "Boston Medical and Surgical Journal," 1871.]

— Examination of deaf-mutes Bell's "visible speech." 1872.

— Etiology of acquired deaf-mutism.

[In "Boston Medical and Surgical Journal," 1871.]

— Late contributions to aural surgery.

[In "Transactions of Massachusetts Medical Society," 1870.]

Blake (Clarence John)—continued.

- Living larvæ in the human ear.
[In "Archives of Ophthalmology and Otology," 1871.]
- A middle-ear mirror.
[In "Transactions of the American Otological Society," 1872.]
- New myringotome and polyp-snare.
[In "Archives of Ophthalmology and Otology," 1870.]
- Palitzer's permanent artificial perforation of the membrana tympani.
[In "Boston Medical and Surgical Journal," 1869.]
- Parasitic growths in the external meatus.
[In "Boston Medical and Surgical Journal," 1871.]
- Report on the progress of otology.
[In "Transactions of the American Otological Society," 1872.]
- Statistical report of ear-diseases.
[In "Massachusetts Charitable Eye and Ear Infirmary Reports," 1873.]
- Summary of experiments on the perception of high musical tones.
[In "Transactions of the American Otological Society," 1872.]

Bogue (Edward Augustus). Bleaching teeth.

- [In "Dental Cosmos," 1872.]
- Dental hygiene.
[In "Dental Cosmos," 1870.]
- Treatment of dental caries.
[In "Dental Cosmos," 1872.]
- The use of tin-foil as filling for decayed teeth.
[In "British Journal of Dental Science," 1871.]

Borland (John Nelson). The tabulation, etc., of the pneumonias treated in the Boston City Hospital, 1868.

- [In "Boston City Hospital Reports."]
- REMARKS.—Also, editing the "Medical and surgical reports" of the Boston City Hospital (in conjunction with Professor D. W. Cheever); and various reports of cases of interest, published, from time to time, in the "Boston Medical and Surgical Journal."

Bowditch (Henry Pickering). On bromide of potassium. Graduating thesis.

- [In "Boston Medical and Surgical Journal," 1868.]
- Report on the progress of physiology.
[In "Boston Medical and Surgical Journal," 1873.]
- Ueber die Eigenthümlichkeiten der Reizbarkeit welche die Muskelfasern des Herzens zeigen.
[In "Arbeiten aus der physiologischen Anstalt zu Leipzig," Jahrgang vi.]

Buckingham (Charles Edward). Papers published in the "Boston Medical and Surgical Journal."**Chandler** (Thomas Henderson). Manipulation of vulcanite as a base-plate for artificial teeth.

- [In "Dental Cosmos,"]

Chandler (T. H.)—continued.

- Translation of Lehr and Rottenstein's "Researches on dental caries." 1873.

Cheever (David Williams). Cases of occlusion of the vagina. Pamphlet. Boston, 1868.

- Clinical lectures on hernia.
[In "Boston Medical and Surgical Journal,"]
- How to study medicine. An introductory lecture. Boston, 1872.
- On spontaneous fracture. Pamphlet. Boston, 1871.
- One case of ovariectomy.
[In "Boston Medical and Surgical Journal,"]
- The policy or impolicy of removing leucocythæmic glandular tumors.
[In "Boston Medical and Surgical Journal,"]
- Report on surgery in the city-hospital for five years. Boston, 1870.

— A series of editorials on medical education, viz: Nine cases of excision of the hip. The operation of removing nasopharyngeal polypus by displacement of the upper jaw. On cancer of the tonsils removed by external incision. On reproduction of the tibia.

[In "Boston Medical and Surgical Journal," 1868.]

Note.—The four last named printed in pamphlet-form at Boston in 1868 and 1869.

— Ten papers on cases in the Boston City Hospital.

[In "Boston Medical and Surgical Journal,"]

— Three cases of œsophagotomy, with a history of the operation. Boston, James Campbell, 1868.

Clarke (Edward Hammond). A case of disease of the ear, followed by disease of the brain, with remarks.

[In BROWN-SÉQUARD'S "Archives," 1873.]

— Hydrate of chloral, with cases illustrating its action.

[In "Boston Medical and Surgical Journal," 1870.]

— A new rule for doses.

[In "Boston Medical and Surgical Journal," 1872.]

— Observations on the nature and treatment of polypus of the ear. With plates. 1867.

— A review of "an experimental research on the antagonism between the action of physostigma and atropia. By Thomas B. Fraser, M. D., of Edinburgh."

[In "Boston Medical and Surgical Journal," 1872.]

— The therapeutical action and value of the bromide of potassium and some of

Clarke (Edward Hammond)—continued.
its kindred salts. 176 pp. *Boston, James Campbell, 1872.*

REMARKS.—Also, all the articles on "Materia medica" in "Appleton's New American Encyclopedia" (in press), in conjunction with Professor R. T. Edes.

Derby (George). Anthracite and health. *Boston, 1868.*

— The Massachusetts registration-reports.

Note.—Annually during the past five years.

— In the "State Board of Health Reports," the following articles: 1st report. Slaughtering; the sale of poisons; the prevention of disease. 2d report. Poisoning by lead pipe used for conveyance of water (in part); trichina disease; the causes of typhoid fever; analysis of mortality of Boston in 1870; Mystic Pond, and its sources of supply (in part); air and its impurities. 3d report. Mill-dams and other water-obstructions; slaughtering, bone-boiling, and fat-melting; small-pox in Massachusetts. 4th report. The food of the people of Massachusetts; sewerage; sewage; pollution of streams; water-supply of towns (in part).

Derby (H.). Gräfe's operations and statistics vindicated.

[In "Boston Medical and Surgical Journal," 1871-72.]

— Melano-sarcoma of the choroid, simulating glaucoma. In conjunction with J. C. Warren, M. D.

[In "Boston Medical and Surgical Journal," 1871.]

— The modern operations for cataract. 1871.

— On the extraction of cataract.

[In "Boston Medical and Surgical Journal," 1872.]

— On the importance of the ophthalmoscope as an aid to general practice.

[In "Boston Medical and Surgical Journal," 1871.]

— The prognosis of cataract and the rules by which it is formed.

[In "Boston Medical and Surgical Journal," 1871.]

— Spindle-celled sarcoma of choroid. In conjunction with R. H. Fitz, M. D.

[In "Boston Medical and Surgical Journal," 1872.]

Edes (Robert Thaxter). Anstie on neuralgia.

[In "Boston Medical and Surgical Journal," 1872.]

— Case of tumor connected with the cerebellum.

[In "Boston Medical and Surgical Journal," 1873.]

— Cases of leucocythæmia.

[In "Boston Medical and Surgical Journal," 1871.]

Edes (Robert Thaxter)—continued.

— Formation and significance of renal casts.

[In "Publications of the Massachusetts Medical Society," 1869.]

— Lawson on sciatica.

[In "Boston Medical and Surgical Journal," 1872.]

— Mitchell on injury to nerves.

[In "Boston Medical and Surgical Journal," 1872.]

— Morbid growths connected with the nervous system.

[In "American Journal of Medical Science," 1871.]

— Nature and time in the cure of diseases.

[In "Publications of the Massachusetts Medical Society," 1868.]

— Notice of Ecker's "Hirnwindungen des Menschen."

[In "Boston Medical and Surgical Journal," 1871.]

— Notices of Hammond's "Diseases of the nervous system."

[In "American Journal of Medical Science," 1872.]

— Observations in morbid anatomy.

[In "St. Louis Medical and Surgical Journal," 1869.]

— Physiology and pathology of the sympathetic or ganglionic nervous system.

[In "Transactions of the New York Academy of Medicine," 1869.]

— Practical medicine as a science. Annual address before the Norfolk District Medical Society.

[In "Boston Medical and Surgical Journal," 1871.]

— Report on therapeutics.

[In "Boston Medical and Surgical Journal," 1872.]

— Translation of Ecker's "Hirnwindungen des Menschen."

[In HAMMOND'S "Journal of Psychological Medicine," 1873.]

REMARKS.—Also, articles on "Materia medica," in "Appleton's American Encyclopedia," in conjunction with Dr. E. H. Clarke, in press.

Ellis (Calvin). Description and autopsy of the double monster (*Ischiopagus tripus*) born in Ohio, and lately exhibited in Boston.

[In "Boston Medical and Surgical Journal," 1871.]

— The tendency of so-called local diseases to generalization.

[In "Boston Medical and Surgical Journal," 1870.]

— Vomiting as the sole prominent sign of disease of the kidneys.

[In "Boston Medical and Surgical Journal," 1871.]

Fitz (Reginald Heber). Beitrag zur feineren Anatomie der Bronchiektasie.

[In VICHOW'S "Archiv," 1870.]

— Semi-annual report on pathology and pathological anatomy.

[In "Boston Medical and Surgical Journal," 1872.]

Fitz (Reginald Heber)—continued.

— The theory of tuberculosis.

[In "Publications of the Massachusetts Medical Society," 1871.]

REMARKS.—Also, occasional contributions, book-notices, etc., from time to time, in "Boston Medical and Surgical Journal."

Green (John Orne). Five cases of fatal diseases of the middle ear.

[In "Boston Medical and Surgical Journal," 1871.]

— Injuries to the membrana tympani.

[In "Transactions of the American Otological Society," 1871.]

— Parasitic growths in the meatus.

[In "Boston Medical and Surgical Journal," 1870.]

— Report on the progress of otology.

[In "Transactions of the American Otological Society," 1871.]

Hawes (Nathaniel Ware). Reflex influence of the female pelvic organs upon the teeth.

[In "Boston Gynaecological Journal," January, 1870.]

Hitchcock (Thomas Barnes). Amalgams.

[In "Missouri Dental Journal," 1872.]

— Notes to Wedl's "Pathology of the teeth." *Lindsay & Blakiston*, 1872.

— Relative liability of teeth to caries.

[In "Canada Dental Journal," 1872.]

Holmes (Oliver Wendell). The medical profession in Massachusetts. A lecture of a course delivered by members of the Massachusetts Historical Society. 45 pp. *Boston*, 1869.

— Teaching from the chair and at the bedside. An introductory lecture delivered before the medical class of Harvard University. 45 pp. *Boston*, 1867.

Jackson (John Barnard Swett). Catalogue of the Harvard College anatomical museum. 1870.

— Remarks on tubercle.

[In "Boston Medical and Surgical Journal," 1870.]

— Remarks on typhoid fever.

[In "Boston Medical and Surgical Journal," 1872.]

REMARKS.—Also, several cases and short articles reported to the "Society for Medical Improvement," and published in the "Medical and Surgical Journal."

Oliver (Henry Kemble, jr.) Causes of aphonia from paralysis of intrinsic muscles of the larynx.

[In "American Journal of Medical Science," 1870.]

— The character of substances used for flavoring articles of food and drink.

[In "State board of health report," 1873.]

— Leprosy of the Bible and its present existence in the world.

Note.—In preparation.

— Parasites of the human skin and hair, and false parasites of the human body.

Oliver (Henry Kemble, jr.)—continued.

— The removal of a fibro-plastic tumor from the right vocal cord by the aid of the laryngoscope.

[In "American Journal of Medical Science," 1867.]

REMARKS.—Also, occasional book reviews, in "American Journal of Medical Science."

Putnam (James Jackson). The anatomy of the brain of mammals. Professor Megnert. Translation.

— Some experiments on the reflex contraction of blood-vessels.

[In "Boston Medical and Surgical Journal," 1870.]

— Stricker's hand-book of histology.

American edition. *New York, William Wood & Co.*, 1872.

Warren (John Collins). On keloid.

[In "Reports of Vienna Academy," 1867. In German.]

— On rodent ulcer. Boylston prize essay. *Boston, Little, Brown & Co.*, 1872.

REMARKS.—Also, occasional contributions to the "Boston Medical and Surgical Journal," in the form of editorials and original articles, and reports on the progress of surgery (particularly since his appointment as editor of the journal).

White (James Clarke). On medical education in America. Introductory address to the medical class of Harvard University.

[In "Boston Medical and Surgical Journal," 1870. Reprint.]

— On poisoning by oxalic acid.

[In "Boston Medical and Surgical Journal," 1870. Reprint.]

— On the poisonous action of *rhus toxicodendron* and *rhus venenata* on the human skin.

[In "New York Medical Journal," 1872. Reprint.]

— On the protection acquired by the human skin and other tissues against the action of certain animal poisons.

[In "Boston Medical and Surgical Journal," 1871. Reprint.]

— On the so-called discoveries of new vegetable and chemical products in the blood.

[In "Boston Medical and Surgical Journal," 1868.]

— Report on the vegetable parasites of the human skin.

[In "State board of health report," 1872. Reprint.]

— Review of modern dermatology.

[In "American Journal of Medical Science," 1871. Reprint.]

— Semi-annual report on the progress of dermatology.

[In "Boston Medical and Surgical Journal," 1872.]

Williams (Henry Willard). The causes and prevention of near-sightedness. Translation from the German. *Boston, D. Clapp & Son*, 1871.

WILLIAMS.

Williams (Henry Willard)—continued.

——— Improvement in cataract-operations.
[In "Boston Medical and Surgical Journal," 1871.]

——— Optical defects in school-children.

An address before the Massachusetts Teachers' Association. *A. Mudge & Son*, 1869.

——— Our eyes, and how to take care of them. *Boston, J. R. Osgood & Co.*, 1871.

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WOOD.

Williams (Henry Willard)—continued.

——— A practical guide to the study of diseases of the eye. 3d ed. *Boston, J. R. Osgood & Co.*, 1869.

Wood (Edward Stickney). Amputation at the knee-joint.

[In "Boston Medical and Surgical Journal," 1872.]

——— Report on medical chemistry.

[In "Boston Medical and Surgical Journal," 1873.]

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XII.—NATURAL SCIENCES, INCLUDING CHEMISTRY.

AGASSIZ.

Agassiz (Alexander E. R.) Application of photography to illustrations of natural history.

[In "Bulletin of the Museum of Comparative Zoölogy," November 30, 1871, vol. iii. 8°. *University Press, Cambridge.*]

— Beaver-dams of Lake Superior. 6 pp.
[In "Proceedings of the Boston Society of Natural History," 1869.]

— Habits of the Echinoderms. 6 pp.
[In "Proceedings of the Boston Society of Natural History," 1869.]

— History of *Balanoglossus* and *Fornaria*. 35 pp., 3 pl.
[In "Memoirs of the American Academy of Arts and Sciences," January, 1873.]

— Notice on the sandstone of Lake Superior. 3 pp.
[In "Proceedings of the Boston Society of Natural History," 1869.]

— Note on Leskia. 8 pp.
[In "American Lyceum of Natural History," 1869.]

— Revision of the Echini. Parts 1 and 2. 4°. August, 1872.

— Sea-side studies. Radiates. 3d ed. 157 pp., 185 cuts.

— Zoölogical nomenclature. 8 pp.
[In "American Naturalist," 1872.]

Agassiz (Louis). Four papers read before the National Academy.

Note.—Not yet printed.

— Five annual reports of the progress of the Museum of Comparative Zoölogy of Harvard University.

Note.—The last not yet out.

— Five reports concerning the Hassler expedition. Addressed to the Superintendent of the United States Coast-Survey.

— A letter concerning deep-sea dredgings. Addressed to Professor Benjamin Peirce, December 2, 1871.

ALLEN.

Agassiz (Louis)—continued.

— Report upon deep-sea dredgings in the Gulf-Stream during the third cruise of the United States steamer Bibb. Addressed to Professor Benjamin Peirce, Superintendent of the United States Coast-Survey, November, 1869.

Allen (William). Notes on strength of materials. 8°. *Baltimore*, 1871.

Allen (Joel Asaph). Catalogue of the birds found at Springfield, Massachusetts, etc.
[In "Proceedings of the Essex Institute," vol. iv, pp. 48-98.]

— Catalogue of the mammals of Massachusetts, with a critical revision of the species.

[In "Bulletin of the Museum of Comparative Zoölogy," vol. i, pp. 143-253, October, 1869.]

— Catalogue of the reptiles and batrachians found in the vicinity of Springfield, Massachusetts.

[In "Proceedings of the Boston Society of Natural History," vol. xiii, pp. 171-304, December, 1868.]

— An expedition to the Great Plains and the Rocky Mountains in 1871. April 1, 1871, to January 20, 1872.

— Geographical variation in North American birds.

[In "Proceedings of the Boston Society of Natural History," vol. xv, January, 1873.]

— A journey in Brazil, with the San Francisco branch of the Thayer expedition in 1865.

— Notes on the habits and distribution of the duck-hawk or American peregrine-falcon in the breeding-season, etc.

[In "Proceedings of the Essex Institute," vol. iv, pp. 153-161, 1865.]

— Notes on the mammals of Iowa.

[In "Proceedings of the Boston Society of Natural History," vol. xiii, pp. 178-194, December, 1869.]

ALLEN.

Allen (Joel Asaph)—continued.

— Notes of an ornithological reconnaissance of portions of Kansas, Colorado, Wyoming, and Utah.

[In "Bulletin of the Museum of Comparative Zoology," vol. iii, pp. 113-183, July, 1872.]

— Notes on some of the rarer birds of Massachusetts.

[In "American Naturalist," vol. iii, 1869-70, pp. 49.]

— On the eared seals (Otariadæ), with detailed descriptions of the North Pacific species.

[In "Bulletin of the Museum of Comparative Zoology," vol. ii, pp. 1-108, with 6 wood-cuts and 3 lithograph-plates, August, 1870.]

— On the mammals and winter-birds of East Florida, with an examination of certain assumed specific characters in birds, and a sketch of the bird-fauna of Eastern North America.

[In "Bulletin of the Museum of Comparative Zoology," vol. ii, pp. 161-450, and 5 plates, April, 1871.]

— Notice of birds observed in Iowa, Illinois, and Indiana, etc.

[In "Memoirs of the Boston Society of Natural History," vol. i, pp. 488-526, December, 1868.]

— Notice of a foray of a colony of *Formica sanguinea*, Latr., upon a colony of a black species of formicæ for the purpose of making slaves of the latter.

[In "Proceedings of the Essex Institute," vol. v, pp. 1-3, April, 1866.]

— Ornithological notes from the west.

34 pp.

[In "American Naturalist," vol. ii, 1870.]

— A six months' collecting-tour in Iowa, Indiana, and Illinois in 1867.

— Three months in East Florida in the winter of 1869-70.

REMARKS.—Also other papers in the "American Naturalist" on "The birds of New England," etc., besides numerous "book-notices" and "miscellaneous notes" in the same journal.

Bardwell (F. W.) Suggestions on the theory of the composition of forces. 1 p.

Barnard (Frederick A. P.) Machinery and processes of the industrial arts and apparatus of the exact sciences. 669 pp. 8°.

[In "Report on Paris Exposition," printed by the Senate of the United States, 1869.]

— Recent progress of science, with an examination of the asserted correlation of mental and physical forces. 8°. *New York*, 1869.

— Theory of the high-speed reciprocating steam-engine. Lecture before the Polytechnic Society of the American Institute. 40 pp. 8°.

[In "Proceedings," 1872.]

CHATARD.

Bascom (John). Darwin's theory of species.

[In "American Presbyterian Review," July, 1871, New York.]

— Evolution as advocated by Herbert Spencer.

[In "American Presbyterian Review," July, 1872, New York.]

Beal (W. J.) Inequilateral leaves. 6 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Blake (J. H.) The habits and migrations of some of the marine fishes of Massachusetts.

[In "American Naturalist," vol. iv, no. 2, November, 1870.]

Blake (William P.) The plasticity of pebbles. 6 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Bliss (Richard, jr.) On the osteology of the anterior vertebra in *Doras niger*, with a comparison of the structure of the dorsal fin in *Doras* and *Balistes*.

[In "Proceedings of the Boston Society of Natural History, vol. xiv, p. 3, 1870-71.]

Bradley (L.) Tellurium, a metal. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Burbank (L. S.) On *Eozoön canadense* in the crystalline limestone of Massachusetts. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Bushes (James). Causes of the failure of lightning-rods. 7 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— Conditions of a perfect lightning-rod. 8 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Buttrick (E. L.) The application of carbonic-acid gas in the extinguishment of fire. 4 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Cabot (Louis). The immature state of the Odonata. Part i. Royal 8°. July 5, 1871.

Chadbourne (Paul Ansel). Instinct in animals. Twelve lectures delivered before the Lowell Institute. 307 pp. *New York*.

Chamberlin (T. C.) Suggestions as to a basis for the gradation of the vertebrates. 13 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters, 1870-72.]

Chatard (T. M.) On the determination of molybdic acid as plumbic molybdate.

— On the determination of small quantities of manganese.

— On the evaporation to dryness of gelatinous precipitates.

Chatard (T. M.)—continued.

— On tests for nitrous acids.

— On the treatment of gelatinous precipitates.

Clarke (F. W.) On a process of mineral analysis.

Coffin (James Henry). Orbit and phenomena of the meteoric fire-ball of 1860. Published by Smithsonian Institution. 70 pp. 4°.

— Winds, or the laws of atmospheric circulation. Prepared with the co-operation of the Smithsonian Institution. 800 pp. 4°. 1873.

Cook (George H.) Annual reports on the geology of New Jersey, 1867-72. *Trenton (New Jersey)*.

— Geology of New Jersey. *Newark (New Jersey)*, 1868.

Cooke (Josiah Parsons, jr.) Absolute system of electrical measurements. [*In "Journal of Franklin Institute."*]

— Chemical theory of voltaic battery. [*In "Journal of Franklin Institute."*]
Note.—Now publishing.

— Crystallographic determination of some American chlorites. [*In "American Journal of Science,"* vol. xlv.]

— Doctrine of atomic ratios applied in mineralogy.

[*In "American Journal of Science,"* vol. xlvii.]
— On the aqueous lines of the solar spectrum.

[*In "Proceedings of the American Academy of Arts and Sciences,"* vol. vii.]

— On certain lecture-experiments.

[*In "American Journal of Science,"* vol. xlv.]

— On cryophyllite, a new mineral species of the mica family, with some associated minerals in the granite of Rockport, Massachusetts.

[*In "American Journal of Science,"* vol. xliii.]

— On danalite, a new mineral species.

[*In "American Journal of Science,"* vol. xlii.]

— On a method of determining protoxide of iron in silicates not soluble in the ordinary mineral acids.

[*In "American Journal of Science,"* vol. xlv.]

— Principles of chemical philosophy 600 pp. 12°. 1st ed., 1868; 2d ed., 1872.

Cope (Edward D.) Observations on the systematic relations of the fishes. 27 pp.

[*In "Proceedings of the American Association for the Advancement of Science,"* 1871.]

— On the extinct tortoises of the Cretaceous of New Jersey. Abstract.

[*In "Proceedings of the American Association for the Advancement of Science,"* 1871.]

Coues (Elliott). On the mechanism of flexion and extension in birds' wings. 6 pp.
[*In "Proceedings of the American Association for the Advancement of Science,"* 1871.]

Cox (E. T.) Western coal-measures and Indiana coal. 15 pp.

[*In "Proceedings of the American Association for the Advancement of Science,"* 1871.]

Cross (Charles R.) On the focal lengths of microscopic objectives.

[*In "Journal of Franklin Institute,"* June, 1870.]

Dall (W. H.) On the distribution of the native fishes of Alaska and the adjacent territory. 10 pp.

[*In "Proceedings of the American Association for the Advancement of Science,"* 1869.]

— On the trend of the Rocky Mountain range north of latitude 60°, and its influence on faunal distribution. 1 p.

[*In "Proceedings of the American Association for the Advancement of Science,"* 1869.]

— Report on the Brachiopoda, with a revision of the Craniidæ and Discinidæ.

[*In "Bulletin of the Museum of Comparative Zoölogy,"* vol. iii, May, 1871.]

Dana (James D.) Corals and coral-islands. 398 pp. 8°. *New York*, 1872.

— On the geology of the Green Mountain region.

[*In "American Journal of Science,"* 1872, 3d series, vol. iii, pp. 179-250; vol. iv, pp. 362-450.]

— On the geology of the New Haven region. 68 pp. 8°.

[*In "Transactions of the Connecticut Academy,"* 1870, vol. ii.]

— On the phenomena of the Quaternary era in North America.

[*In "American Journal of Science,"* 1871, 3d series, vol. i, pp. 1-125; vol. ii, pp. 233-394.]

— A system of mineralogy: descriptive mineralogy, comprising the most recent discoveries. 5th ed. 828 pp. 8°. *New York*, 1868.

Davies (John E.) On potentials and their application in physical science. 13 pp.

[*In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters,"* 1870-72.]

Dawson (J. W.) On recent geological discoveries in the Acadian provinces of British America. 2 pp.

[*In "Proceedings of the American Association for the Advancement of Science,"* 1867.]

Draper (Henry). Description of the construction and use of a silvered-glass telescope 15½ inches in aperture.

[*In "Smithsonian Contributions to Science."*]

— Report on the deep-sea soundings in the tropical Atlantic made during the cruise of the New York school-ship "Mercury."

EATON.

Eaton (James H.) Cyanogen-compounds of manganin.

— An elementary manual of quantitative chemical analysis.

— Report on the geology of the region about Devil's Lake. 5 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

Elliot (Charles William) Manual of qualitative chemical analysis (with Professor F. H. Storer). New York, Van Nostrand, 1869. 2d ed., 1872.

Elliot (E. B.) The law of electric currents. [In "Proceedings of the American Association for the Advancement of Science," 1869.]

Feuchtwanger (Lewis) The meteorites from Poland and Mexico. 4 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Gibbs (Wolcott) On the action of the alkaline nitrites upon uric acid and its derivatives.

[In "American Journal of Arts and Sciences."]

— On an advantageous form of apparatus for the study of the absorption of light in colored liquids.

— On the ammonia-cobalt bases.

[In "Berichte der deutschen chemischen Gesellschaft."]

— On the application of Sprengel's mercurial pump in analysis.

[In "American Journal of Arts and Sciences."]

— On liquids of high dispersive power.

[In "American Journal of Arts and Sciences."]

— On the measurement of wave-lengths by means of indices of refraction.

[In "American Journal of Arts and Sciences."]

— On a simple method of avoiding observations of temperature and pressure in gas-analyses.

[In "American Journal of Arts and Sciences."]

— On tests for the perfection and parallelism of plane surfaces of glass.

[In "American Journal of Arts and Sciences."]

— On the wave-lengths of the spectral lines of the elements.

[In "American Journal of Arts and Science."]

— Researches on the hexatomic compounds of cobalt.

[In "Berichte der deutschen chemischen Gesellschaft."]

— Researches on the metals of the platinum-group.

[In "Berichte der deutschen chemischen Gesellschaft."]

Gill (Theodore) On the characteristics of the class of mammals. 22 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

HAGEN.

Godwin (Bryant). On the introduction of the principle of repetition into chemical analysis.

Gray (Asa). Botany for young people. Part ii. Small 4°. 1872.

— An essay upon the origin and history of the flora of North America. 22 pp.

— The same. Appendix. Annexed to the revised and official edition, January, 1873.

— Field, forest, and garden botany. An introduction to the common plants of the United States, both wild and cultivated. 8°. 1868-70.

— Notes on Labiatae, and determinations of a collection of plants from Oregon made by E. Hall.

[In "Proceedings of the American Academy of Arts and Sciences," vol. viii, pp. 365-412.]

— Reconstruction of the order of Diapensiaceae.

— Revision of the Eriogoneae. A memoir prepared at Kew, England, 1868.

[In "Proceedings of the American Academy of Arts and Sciences," 1870, vol. viii, pp. 145-200.]

— Revision of the North American Polemoniaceae; *Miscellanea Botauica*.

[In "Proceedings of the American Academy of Arts and Sciences," vol. viii, pp. 243-296.]

— Sequoia and its history. An address delivered at the meeting of the American Association for the Advancement of Science, at Dubuque, August, 1872.

Grimes (J. L.) Laws of the ocean-currents. 7 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Hagen (Hermann August). *Agapetus tomentosus*.

[In "Entomologische Zeitung," Stettin, vol. xxix, pp. 18-20.]

— The American pseudo-scorpions.

[In "Records of American Entomology," Salem, 1868, pp. 41-52.]

— Criticism of the Neuroptera in Dr. Packard's "Guide."

[In "Proceedings of the Boston Natural History Society," vol. xiii, p. 205.]

— Concerning a meteor seen in Prussia.

[In "Proceedings of the Boston Natural History Society," vol. xi, pp. 433-434.]

— Fragmente zur Gattung Neurothemis.

[In "Entomologische Zeitung," Stettin, vol. xxx, pp. 94-106.]

— Die Larven von *Ascalaphus*.

[In "Entomologische Zeitung," Stettin, vol. xxxiv, pp. 33-64.]

— Die Larven von *Myrmeleon*.

[In "Entomologische Zeitung," Stettin, vol. xxxiv.]

Hagen (Hermann August)—continued.

- Mimicry in the colors of insects (besides several shorter papers and notices).
[In "American Naturalist," Salem, pp. 388-394.]
- Monographie der Gattung *Beraea*.
[In "Entomologische Zeitung," Stettin, vol. xxix, pp. 51-64.]
- Monographie der Gattung *Dasystema*.
[In "Entomologische Zeitung," Stettin, vol. xxix, pp. 267-278.]
- Monograph of the North American *Astaridae*. 109 pp., 11 pl.
[In "Illustrated Catalogues," 1870.]
- Die Neuroptera der Insel Cuba.
[In "Entomologische Zeitung," Stettin, vol. xxviii, pp. 215-232.]
- Notes on the genus *Raphidia*.
[In "Transactions of the Entomological Society," London, vol. v, pp. 493-500.]
- Notice of a new dissecting-microscope.
[In "Proceedings of the Boston Natural History Society," vol. xiv, pp. 387-388.]
- Notiz über das Museum in Cambridge.
[In "Entomologische Zeitung," Stettin, vol. xxix, pp. 113-118.]
- The odonata fauna of the island of Cuba.
[In "Proceedings of the Boston Natural History Society," vol. xi, pp. 289-294.]
- Die Odonaten Cuba's.
[In "Entomologische Zeitung," Stettin, vol. xxix, pp. 274-287.]
- Of an orthopterous insect which deposits its eggs in the stems of the cotton-plant.
[In "Proceedings of the Boston Natural History Society," vol. xi, p. 434.]
- On the diseases of injurious insects.
[In "Proceedings of the Boston Natural History Society," vol. xii, p. 381.]
- On *Hodotermes japonicus*.
[In "Proceedings of the Boston Natural History Society," vol. xii, p. 139.]
- On an imago of *Morpho*, with caterpillar's head.
[In "Proceedings of the Boston Natural History Society," vol. xii, pp. 163-164.]
- On the improvement of the microscope.
[In "Proceedings of the Boston Natural History Society," vol. xiii, pp. 164-166.]
- On *Lachlonia abnormis*, a new genus and species from Cuba belonging to the Ephemera.
- [In "Proceedings of the Boston Natural History Society," vol. xi, pp. 372-374.]
- On the larvæ of the *Ascalaphus* and *Myrmeleon*.
[In "Proceedings of the Boston Natural History Society," vol. xv.]
- Note.—In press.
- On the manufacture of microscopes.
[In "Proceedings of the Boston Natural History Society," vol. xii, pp. 357-361.]

Hagen (Hermann August)—continued.

- On the mimicry in the color of insects.
[In "Entomologists' Monthly Magazine," London, 1872, pp. 78-83.]
- On the mode of locomotion in Cheliferæ.
[In "Proceedings of the Boston Natural History Society," vol. xi, pp. 323-325.]
- On the pseudo-scorpions of North America.
[In "Proceedings of the Boston Natural History Society," vol. xi, p. 435.]
- On Mr. S. H. Scudder's notes on some Odonata from the White Mountains, New Hampshire.
[In "Proceedings of the Boston Natural History Society," vol. xi, p. 294.]
- On some American species of *Psoras*.
[In "Proceedings of the Boston Natural History Society," vol. xi, pp. 374-375.]
- On termites in Brazil.
[In "Proceedings of the Boston Natural History Society," vol. xiii, pp. 205-206.]
- On a wingless white ant from Japan.
[In "Proceedings of the Boston Natural History Society," vol. xi, pp. 399-400.]
- Report on the collection of Articulata.
[In "Annual Report" of the Museum publications, 1868, pp. 27-31.]
- Report on the Articulata.
[In "Annual Report" of the Museum publications, 1869, pp. 17-26.]
- Report on the Articulata.
[In "Annual Report" of the Museum publications, 1870, pp. 27-31.]
- Report on the Articulata.
[In "Annual Report" of the Museum publications, 1871, pp. 22-28.]
- Report on the Articulata.
[In "Annual Report" of the Museum publications, 1872.]
- Note.—In press.
- Revision der von Herr Scudder beschriebenen Odonaten.
[In "Entomologische Zeitung," Stettin, vol. xxviii, pp. 129-131.]
- Revision der von Herr Uhler beschriebenen Odonaten.
[In "Entomologische Zeitung," Stettin, vol. xxviii, pp. 87-95.]
- Schmetterlinge mit Raupenkopf und ähnlichen Missbildungen.
[In "Entomologische Zeitung," Stettin, vol. xxxiii, pp. 388-402.]
- The synopsis of Gomphina.
[In "Illustrated Catalogues," v, pp. 15-17.]
- Synopsis pseudo-scorpionidum synonymica.
[In "Proceedings of the Boston Natural History Society," vol. xiii, pp. 263-272.]
- Ueber die Heuschrecken Sttd-Russlands, von Körper.
- [In "Entomologische Zeitung," Stettin, vol. xxvi, pp. 129-131.]

HAGEN.

Hagen (Hermann August)—continued.

— Ueber die Microscope Nordamerica's.

[In M. SCHULTZ's "Archiv für microscopische Anatomie," Bonn, 1870, pp. 205-224.]

— Ueber rationelle Benennung des Geäders in den Flügeln der Insecten.

[In "Entomologische Zeitung," Stettin, vol. xxxi, pp. 316-320.]

— Zur Kenntniss von Psychomyia dati.

[In "Entomologische Zeitung," Stettin, vol. xxix, pp. 259-266.]

— Zur Odonaten-Fauna von Neu-Granada.

[In "Entomologische Zeitung," Stettin, vol. xxx, pp. 256-260.]

Hamlin (A. C.) The gems of the United States. 6 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Hay (P. R.) Deep-water fauna of Lake Michigan. 4 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

— Insects injurious to agriculture. 7 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

Hilgard (Eugene W.) On the condition of our knowledge of the processes in luminous hydrocarbon-flames. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

— On the geological history of the Gulf of Mexico. 14 pp.

• [In "Proceedings of the American Association for the Advancement of Science," 1871.]

— On the geology of Lower Louisiana and the rock-salt deposit of Petite Anse.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Hilgard (Theodore C.) The fresh-water algae as the spawns of mosses. 33 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— Numeric relations of the vertebrate system. 10 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— The organic identity of the albumen and endopleura of all the Phanerogamæ. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— The volcanic tide-belt and the world's flood-gates. 15 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Hill (George Anthony). Syllabus of mechanics. 12 pp. 8°. Cambridge, 1872.

Hill (J. A.) On some improvements in the reflecting-telescope. 20 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

HINRICHS.

Hinrichs (Gustavus). The American Scientific Monthly, July to December, 1870. 1st vol. 136, 52 pp. 8°. 1870.

— Atomechanics proved by Tyndall's experiments.

[In "American Journal of Mining," May 2, 1868.]

— Chemical report upon the fuel, rocks, and waters of Iowa.

[In "First annual report of progress by the State geologist," pp. 202-220, Des Moines, 1868.]

— A demonstration of the laws of electric attraction and repulsion.

[In "The American Educational Monthly," pp. 8-12, New York, 1869.]

— Documents relating to the history of atomechanics. Iowa City, 1868.

— Eine einfache Schwefelwasserstoff-Reagentien-Flasche.

[In FRESSENIUS's "Zeitschrift für analytische Chemie," 1869, Bd. viii, p. 400.]

— The elements of chemistry, demonstrated by the student's own experiments. Journal of experiments. 170 pp., 2 pl. 8°.

[In "Elements of Physical Science," vol. ii. Davenport, 1871.]

— The elements of physics, demonstrated by the student's own experiments. iv, 176 pp., 1 pl. 8°.

[In "Elements of Physical Science," vol. i. Davenport, 1870.]

— How a snow-flake is built.

[In "Scientific American," April 18, 1868.]

— Journal of experiments in Hinrichs's "Elements of physics," performed by him at the school-laboratory of the Iowa State University, 1872. 16 pp. 8°. 1872.

— The lilies of the fields, of the rocks, and of the clouds.

[In "The American Naturalist," 1869, pp. 299-301.]

— The method of quantitative induction in physical science; a guide for students in the laboratory and lecture-room. 48 pp., 1 pl. 8°. Davenport, 1872.

[Also, as "Principles of Physical Science," vol. i, part i.]

— The natural classification of the elements.

[In "The Pharmacist," Chicago, 1869.]

— A new and general law determining the atomic volume and boiling-point of a great number of carbon-compounds.

[In "Proceedings of the American Association for the Advancement of Science," 1868, vol. xvii, pp. 223-238.]

— On the classification and the atomic weights of the so-called chemical elements with reference to Sta's determinations.

[In "Proceedings of the American Association for the Advancement of Science, 1869, vol. 18, pp. 112-114.]

Hinrichs (Gustavus)—continued.

- On molecular perturbations.
[In "Proceedings of the American Association for the Advancement of Science," 1869, vol. xviii, pp. 100-112.]
- The principles of pure crystallography. iv, 44 pp. 8°. *Davenport*, 1871.
- Programm der Atomechanik, oder die Chemie eine Mechanik der Anatomie. 44 pp. 4°. *Iowa City*, 1867.
- A programme of atomechanics. 4 pp. 4°. *New York*, 1867.
- The proximate analysis of coal.
[In "American Journal of Mining," *New York*, 1868; in "Chemical News," *London*; and in "American Chemist," *New York*.]
- Résumé français du programme de l'atomécanique. 4 pp. 4°. *Iowa City*, 1867.
- The school-laboratory of physical science. Published quarterly. Vol. i. iv, 116 pp., 7 pl. 8°. *Iowa City*, 1871.
- The school-laboratory of physical science for 1872.
Note.—In course of publication, two numbers of 1872 having appeared.
- The statics of the four types of modern chemistry, with especial regard to the water-type.
[In "Proceedings of the American Association for the Advancement of Science," 1868, vol. xvii, pp. 209-223.]
- Sulphuretted-hydrogen bottle.
[In "The Pharmacist," p. 82, *Chicago*, 1869.]
- Synopsis of new memoirs on atomechanics. *Iowa City*, July, 1868.
- Ueber den Bau des Quarztes.
[In "Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien," 1870, erste Abtheilung, vol. 61, pp. 83-88.]
- Ueber einen weiteren charakteristischen Unterschied zwischen Steinkohlen und anderen Erdkohlen.
[In "Verhandlungen der kaiserlich-königlichen geologischen Reichsanstalt," No. 4, 1869.]
- Zur Analyse der Steinkohlen.
[In *FRESENUS's "Zeitschrift für analytische Chemie,"* 1869, Bd. viii.]
- Zur Statistik der Krystall-Symmetrie.
[In "Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien," 1870, zweite Abtheilung, vol. 62, pp. 345-361.]
- Hitchcock** (Charles Henry). The distortion and metamorphosis of pebbles in conglomerates. 3 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Explanation of a geological map of Maine. 1 p.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- The geology of Vermont. 3 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Hitchcock (Charles Henry)—continued.

- The Winooski marble of Colchester, *New York*. 1 p.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Horsford** (E. N.) Fluorine in the human brain. 2 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- On some new properties of phosphoric acid. 1 p.
[In "Proceedings of the American Association for the Advancement of Science," 1869.]
- On the source of free hydrochloric acid in the gastric juice. 3 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1868.]
- Phosphoric acid, a constituent of butter. 2 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1868.]
- Phosphoric acid, iron, and potassium, constituents of chlorophyl. 2 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1869.]
- Hungerford** (Edward). Considerations relating to the climate of the glacial epoch in North America.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Preliminary notice of experiments on snow at temperatures below 32° Fahrenheit. 1 p.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Ripton sea-beaches. 2 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Hyatt** (Alphens). Fossil cephalopods of the Museum of Comparative Zoölogy: Embryology. 8°. *Cambridge, printed at the University press*.
[In "Bulletin of the Museum of Comparative Zoölogy,"]
- Irving** (Roland). On the age of the quartzites, schists, and conglomerates of Sauk County. 9 pp.
[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]
- Johnson** (Samuel W.) How crops feed. A treatise on the atmosphere and the soil as related to the nutrition of agricultural plants. With illustrations. 375 pp. 12°. *New York*, 1870.
- How crops grow. A treatise on the chemical composition, structure, and life of the plant, with numerous illustrations and tables of analysis. 394 pp. 12°. *New York*, 1868.
- On soil-exhaustion and rotation of

JOHNSON.

Johnson (Samuel W.)—continued.

Connecticut State board of agriculture. 48 pp. 8°. *Hartford*, 1872.

— Report on analyses of commercial fertilizers, made to the Connecticut State board of agriculture. 20 pp. 8°. *Hartford*, 1869.

— Report on analyses and valuation of commercial fertilizers, made to the Connecticut State board of agriculture. 19 pp. 8°. *Hartford*, 1870.

Johnston (John). A manual of chemistry on the basis of Turner's "Manual of chemistry." 8th ed., with appendix. *Philadelphia*, 1871.

Knapp (J. G.) Ancient lakes of Wisconsin. 3 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

— Conifers of the Rocky Mountains and their adaptation to the soil and climate of Wisconsin. 7 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

Kroeh (C. F.) The atmosphere. *Published by the Smithsonian Institution.*

— The circuit of carbon in nature. *Published by the Smithsonian Institution.*

— Cryptogams. *Published by the Smithsonian Institution.*

— Geology and history. *Published by the Smithsonian Institution.*

— Helmholtz's Goethe's labors in natural sciences. *Published by the Smithsonian Institution.*

— Helmholtz's lecture on the mutual relations of the different sciences. *Published by the Smithsonian Institution.*

— The metamorphosis of insects. *Published by the Smithsonian Institution.*

— The oldest formation of the earth. *Published by the Smithsonian Institution.*

— On lacustrine constructions. *Published by the Smithsonian Institution.*

— On methods of measuring high temperatures.

[In "American Artisan,"]

— On scientific researches in sound.

[In "American Artisan,"]

— Organic bases. *Published by the Smithsonian Institution.*

— Parthenogenesis. *Published by the Smithsonian Institution.*

— The petrified forests of Bohemia. *Published by the Smithsonian Institution.*

— Pitcher-plants. *Published by the Smithsonian Institution.*

LOVERING.

Kroeh (C. F.)—continued.

— Psychiatry. *Published by the Smithsonian Institution.*

— Review of Tyndall's "Miracles." *Published by the Smithsonian Institution.*

— Starch-granules. *Published by the Smithsonian Institution.*

— Stellar systems. *Published by the Smithsonian Institution.*

— Tyndall's "Vitality." *Published by the Smithsonian Institution.*

Lapham (J. A.) On the classification of plants. 8 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

Lattimore (Samuel A.) Report to the water-commissioners of the city of Rochester on the character of the sources of supply proposed for that city. 39 pp. 8°. *Rochester*, 1872.

— Tables for the computation of the number of gallons contained in any given weight of oil, or other liquid lighter than water. 57 pp. 16°. *Rochester*, 1872.

Lea (M. Carey). On the action of light upon the bromide and iodide of silver.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Lee (R. H.) On the atomic weights of cobalt and nickel.

Leeds (Albert R.) Note upon aventurine orthoclase, found at the Ogden mine, Sparta Township, Sussex County, New Jersey.

[In "American Journal of Science," No. civ.]

Levison (W. G.) On the precipitation and determination of metals of the magnesium-group.

Loomis (Elias). A treatise on meteorology, with a collection of meteorological tables. 306 pp. 8°. 1868.

Lovering (Joseph). Catalogue of auroras observed, mostly at Cambridge, after the year 1838.

[In "Memoirs of the American Academy of Arts and Sciences," vol. x, pp. 1-8. *Cambridge, Metcalf & Dakin*, 1868.]

— On the application of electricity to the maintenance of the vibrations of a tuning-fork.

[In "Proceedings of the American Association for the Advancement of Science," vol. xvii, pp. 103-106.]

— On methods of illustrating optical meteorology, particularly the formation of halos and coronae, according to the theory of Bravais.

[In "Proceedings of the American Association for the Advancement of Science," vol. xix, pp. 64-69.]

Lovering (Joseph)—continued.

- On optical meteorology.
[In "Proceedings of the American Academy of Arts and Sciences," vol. viii, pp. 215-220.]
- On the optical method of studying sound.
[In "Proceedings of the American Association for the Advancement of Science," vol. xvi, pp. 25-27.]
- On the optical method of studying sound.
[In "Proceedings of the American Academy of Arts and Sciences," vol. vii, pp. 413-416. *Cambridge, Welch & Bigelow, 1870.*]
- On the periodicity of the aurora borealis.
[In "Memoirs of the American Academy of Arts and Sciences," vol. x, pp. 9-304. *Cambridge, Metcalf & Dakin, 1869.*]
- On the periodicity of the aurora borealis.
[In "Memoirs of the American Academy of Arts and Sciences," vol. x, pp. 305-351. *Cambridge, Welch & Bigelow, 1870.*]
- On the periodicity of the aurora borealis.
[In "Proceedings of the American Academy of Arts and Sciences," vol. viii, pp. 55-53.]
- On the secular periodicity of the aurora borealis.
[In "Memoirs of the American Academy of Arts and Sciences," vol. ix, pp. 101-120. *Cambridge, Welch & Bigelow, 1867.*]
- On sympathetic vibrations as illustrated in ordinary mechanical motions.
[In "Proceedings of the American Association for the Advancement of Science," vol. xxi.]
- Lyman (Benjamin S.)** On the Lower Silurian brown hematite beds of America. 3 pp.
[In "Proceedings of the American Association for the Advancement of Science."]
- Lyman (Chester S.)** On a new form of wave-apparatus. 4 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1867.]
- Lyman (Theodore).** Supplement to catalogue No. 1. Ophiuridæ and Astrophytidæ. Royal 8°.
[In "Bulletin of Museum of Comparative Zoölogy," October 10, 1871.]
- Maack (George Augustus).** Memoir on fossil turtles. 144 pp., 12 pl.
[In "Palæontographica," edited by Professor Zittel and Professor Dunker.]
- On the geology of the Argentine Republic.
[In "Proceedings of the Boston Society of Natural History," June, 1870.]
- Report (to the Secretary of the Navy) as geologist and naturalist of the United States Darien exploring expedition for an interoceanic ship-canal (from January to June, 1871), under the command of Captain Selfridge. The Isthmuses of Panama, Darien, and Choco. 1871.

Marsh (Othniel C.) Description of a new species of protichnites from the Potsdam sandstone of New York. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science."]

— Notice of some new Tertiary and Cretaceous fishes. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

— On the origin of the so-called lignites or epsomites. 9 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Matthew (George F.) Remarks on the age and relations of the Metamorphic rocks of New Brunswick and Maine. (In conjunction with L. W. Bailey, also of Canada geological survey.) 16 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Mayer (Alfred M.) Acoustical experiments, showing that the translation of a vibrating body causes it to give a wave-length differing from that produced by the same vibrating body when stationary.

[In "American Journal of Science," 1872, and in some foreign periodicals.]

— Lecture-notes on physics.

[In "Journal of the Franklin Institute," 1868, p. 110.]

— Notes of new apparatus and experiments.

[In "Journal of Franklin Institute," 1867.]

— Observations on the variation of the magnetic declination in connection with the aurora of October 14, 1870.

[In "American Journal of Science" and "Journal of the Franklin Institute."]

— On the changes in the dimension of iron and steel rods, of hollow iron cylinders, and of bars of bismuth on their magnetization.

[In "American Journal of Science," 1873.]

— On the experimental determination of the relative intensities of sounds, and on the measurement of the power of various substances to reflect and to transmit sonorous vibrations.

[In "American Journal of Science," 1873.]

— On manometric flames. Translation from König's paper in Poggendorff's "Annalen."

[In "American Journal of Science," 1872.]

— On a method of detecting the phases of vibration in the air surrounding a sounding body; and thereby measuring directly, in the vibrating air, the length of

Mayer (Alfred M.)—continued.

waves, and exploring the form of its wave-surface.

[In "American Journal of Science," 1872.]

— On a method of fixing, photographing, and exhibiting the magnetic spectra.

[In "American Journal of Science" and "Journal of the Franklin Institute," 1871.]

— On a method of tracing the progress and of determining the boundary of a wave of conducted heat.

[In "American Journal of Science," 1872.]

— On a new form of lantern-galvanometer.

[In "American Journal of Science," 1872.]

— On the physical condition of a cloud-circuit contiguous to a permanent and constant voltaic current; or, on "the electro-tonic state."

[In "American Journal of Science,"]

— On a simple device for projecting on a screen the magnified images of the needle and graduations of a galvanometer, thus affording an instrument convenient in research and suitable for lecture-purposes.

[In "American Journal of Science," 1873.]

— On a simple method of measuring electrical conductivities by means of the equal and opposed magneto-electric currents or waves.

[In "American Journal of Science," 1870.]

— On a simple and precise method of measuring the wave-lengths and velocities of sound in gases, and on an application of the method in the invention of an acoustic pyrometer.

[In "American Journal of Science," 1872.]

— Researches in electro-magnetism.

[In "American Journal of Science," 1870.]

McCord (C. W.) A practical treatise on the movement of the slide-valve by eccentrics. Small 4^o.

Note.—In press.

McCulloch (Richard S.) Lectures on the mechanical theory of heat and the steam-engine. Part i. 4^o. (Autographed). 1872.

Meehan (Thomas). The monocotyledon, the universal type of seeds. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— On the glands of cassia and acadia. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— On the leaves of Coniferæ. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Meehan (Thomas)—continued.

— On the sexes of the plants. 4 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Miller (J. A.) The steam-boiler. 10 pp.

[In "Proceedings of the American Association for the Advancement of Science,"]

Morse (Edward Sylvester). On the carpal and tarsal bones of birds. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Morton (Henry). Lecture on the eye and the camera. Delivered before the American Photographic Convention in the Academy of Music, Philadelphia.

[In ANTHONY'S "Photographic Bulletin," September and October, 1871.]

— Lecture on the eye and vision.

[In "Transactions of the American Institute," 1870-71, p. 295.]

— Lecture on fluorescence.

[In "Philadelphia Photographer," December, 1872.]

— Lecture on the nature and sources of light.

[In "Transactions of the American Institute," 1871-72, p. 121.]

— A lecture on the sun and moon in their relation of light as a source and reflector. Delivered before the [Franklin] Institute at the Academy of Music, Philadelphia.

[In "Journal of the Franklin Institute," vols. lvi and lvii.]

— Monograph on the total solar eclipse of 1868.

[In "Journal of the Franklin Institute," vol. lvii.]

— On the ejector-condenser.

[In "Journal of the Franklin Institute," vol. lviii.]

— On resistance and transmission of motion.

[In "Journal of the Franklin Institute," vol. lvi.]

— Papers on the Gifford injector.

[In "Journal of the Franklin Institute," vol. lvi.]

— Research on the bright line beyond the moon's edge in partial-phase-eclipse photographs.

[In "Journal of the Franklin Institute," vol. lxi; also, in "Comptes-rendus" of the French Academy.]

— Research on fluorescent relations of anthracene chrysogen.

[In "Chemical News," October 18, 1872.]

— Research on fluorescent relations of solid hydrocarbons in petroleum-distillates.

[In "Chemical News," December 6, 1872.]

— Report on the photographic section of the expedition sent by the United States Government to observe the total eclipse of August 7, 1869.

[In "Journal of the Franklin Institute," vol. lviii.]

MORTON.

Morton (Henry)—continued.

— A series of articles on "The oxyhydrogen-lantern as a means of demonstration."

[In "Journal of the Franklin Institute," vols. lli, liv, lv, and lxii.]

— Two papers on spectrum-analysis.

[In "Journal of the Franklin Institute," vol. lviii.]

Munroe (Charles Edward). Estimation of phosphoric acid.

— On the estimation of phosphoric acid.

— On the use of porous cones in filtration, with analyses of arsenic- and antimony-compounds.

[In "American Journal of Science," vol. i, May, 1871.]

Newberry (John S.) On some fossil reptiles and fishes from the Carboniferous strata of Ohio, Kentucky, and Illinois. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

— On some remarkable fossil fishes discovered by Rev. H. Herzer in the black shale (Devonian) of Delaware, Ohio. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Nichols (William Ripley). Chemistry. Abridged from Eliot and Storer. xi, 287 pp. 12°. New York, 1872.

— A compendious manual of qualitative chemical analysis, by Charles W. Eliot and Frank H. Storer. Revised by William Ripley Nichols. vi, 126 pp. 12°. New York, 1872.

— On the chromites of magnesium. 16 pp.

[In "Silliman's American Journal of Science," 2d series, 1869, vol. xlvii.]

— On the composition of the acid oxalates of potassium, ammonium, and sodium.

[In "Proceedings of the American Association for the Advancement of Science," 1869, vol. xviii.]

— On the solubility in water of the oxalates of sodium, potassium, and ammonium at the ordinary temperature of the air.

[In "Proceedings of the American Association for the Advancement of Science," vol. xviii, 1869.]

— Report of the action of Cochituate water on lead pipes.

[In "Annual report of Massachusetts State board of health," 1871.]

— Report to the Massachusetts State board of health, 1873. In connection with Dr. George Derby.

— Sewerage; sewage; the pollution of streams; the water-supply of towns. Published in connection with Dr. George Derby.

ORTON.

Norton (William A.) Fundamental principles of molecular physics.

[In "American Journal of Science," September, 1868; and in "London Philosophical Magazine," July and September, 1869.]

— Fundamental principles of molecular physics.

[In "London Philosophical Magazine," February 1870.]

— Laws of deflection of beams exposed to a transverse strain, tested by experiment.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— Modern theories of heat.

[In "American Journal of Science," March, 1873.]

— On molecular and cosmical physics. 3 papers.

[In "American Journal of Science," May, June, and July, 1873.]

— Physical theory of the principle of the lever.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— Principle of molecular and cosmical physics.

[In "American Journal of Science," January, 1870.]

Orton (James). Barometrical measurements in Ecuador.

[In "American Journal of Science," 1871.]

— Contributions to the natural history of the valley of Quito.

[In "American Naturalist," 1871.]

— Cundurango.

[In "Appleton's Journal," 1872.]

— Geological notes on the Andes of Ecuador.

[In "American Journal of Science," 1869.]

— The great auk.

[In "American Naturalist," 1869.]

— Notes on some birds in the museum of Vassar College.

[In "American Naturalist," 1869.]

— On the condors and humming-birds of the equatorial Andes.

[In "Annals and Magazine of Natural History," London, 1871.]

— On the evidence of a glacial epoch at the equator.

[In "Annals and Magazine of Natural History," London, 1871.]

— On the valley of the Amazon.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— Physical observations on the Andes and the Amazon.

[In "American Journal of Science," 1868.]

— Tertiary shells of the Amazon Valley.

[In "Geological Magazine," London, 1870.]

Orton (James)—continued.

— Underground treasures; how and where to find them. A key for the ready determination of all the useful minerals in the United States. 137 pp. 32°. *Hartford*, 1872.

Owen (Richard). Annual rain-fall.

[In various western periodicals.]

— Contributions to physiographic and dynamic geology, including the discussion of terrestrial magnetism. 9 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— Four communications on terrestrial magnetism, especially in its bearing on physiographic geology.

[In "Journal of the Franklin Institute," 1872.]

— Growth of plants.

[In various western periodicals.]

— Preservation of forests.

[In various western periodicals.]

Packard (A. S., jr.) The embryology of *Libellula* (Diplox), with notes on the morphology of insects and the classification of Neuroptera. 1 p.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

— The insect-fauna of the summit of Mount Washington as compared with that of Labrador. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Parry (C. C.) The Rocky Mountain Alpine region. 9 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Peck (William G.) Elements of mechanics. 12°. *New York*.

Peckham (S. F.) Evaporating-niches at the laboratory of the Maine College of Agriculture and the Mechanic Arts. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Perry (John P.) On the "Eozoön" limestone of Eastern Massachusetts. 6 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— The red sandstone of Vermont and its relations. 7 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

Pierce (Benjamin). On the shrinking of the earth.

[In "Proceedings of the American Academy of Arts and Sciences," vol. viii. pp. 106-108.]

Pickering (Edward C.) Description of a machine for drawing the curves of Lillijus.

[In "Journal of the Franklin Institute," January, 1869.]

Pickering (Edward C.)—continued.

— Dispersion of a ray of light refracted at any number of plane surfaces.

[In "Proceedings of the American Academy of Arts and Sciences," April 14, 1868.]

— Elements of physical manipulation.

— Essay on the comparative efficiency of spectroscope-prisms of different angles.

[In "American Journal of Science," May, 1868.]

— The graphical method.

[In "Journal of the Franklin Institute," April, 1871.]

— On the possibility of attaining perfect achromatism.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— Report on the physical laboratory, 1869.

— Report of the physical laboratory, 1872.

Pourtales (L. F. de). Contributions to the fauna of the Gulf-Stream at great depths. (2d series.)

[In "Bulletin of the Museum of Comparative Zoölogy," Cambridge, December 10, 1868.]

— Deep-sea corals. Royal 8°. *September*, 1871.

— List of the crinoids obtained on the coasts of Florida and Cuba by the United States Coast-Survey Gulf-Stream expeditions in 1867, 1868, and 1869.

[In "Bulletin of the Museum of Comparative Zoölogy," November, 1869.]

— List of Holothuridæ from the deep-sea dredgings of the United States Coast Survey. *November*, 1869.

— Preliminary report on the Crustacea dredged in the Gulf-Stream in the Straits of Florida.

— Preliminary report on the Echini and star fishes dredged in deep water between Cuba and the Florida Reef.

[In "Bulletin of the Museum of Comparative Zoölogy,"]

— Preliminary report on the Ophiuridæ and Astrophytidæ dredged in deep water between Cuba and the Florida Reef.

[In "Bulletin of the Museum of Comparative Zoölogy,"]

Porter (Thomas C.) Catalogue of the plants of Lancaster County, Pennsylvania.

[In "History of [the county]," by J. S. Mombert, D. D., 1869.]

— Catalogue of the plants collected in Utah, Idaho, Montana, and Wyoming Territories during the geological survey of 1871 by Dr. F. V. Hayden.

[In "Hayden's Report," published by Congress, 1872.]

Porter (Thomas C.)—continued.

— Catalogue of the plants collected in Wyoming Territory during the geological survey of Dr. F. V. Hayden.

[In "Hayden's Report," published by Congress, 1871.]

— Geographical distribution of the flora of Pennsylvania. With a colored map.

[In WALLING & GRAY's "Topographical atlas of Pennsylvania," Philadelphia, 1872.]

— A sketch of the flora of the United States. With a colored map.

[In O. W. GRAY's "Atlas of the United States," Philadelphia, 1873.]

Pratt (N. A.) History of the discovery and development of the native bone-phosphates of South Carolina. 40 pp. 8°. Philadelphia.

Prime (Frederick, jr.) Desilverization of lead by zinc. From the German. 20 pp.

[In "The Technologist," 1870.]

— The economy of the blast-furnace.

[In "Engineering and Mining Journal," vol. xii.]

— Researches on the consumption of heat in the blast-furnace.

[In "Engineering and Mining Journal," vols. xiv and xv.]

— Treatise on ore-deposits. From the German of B. v. Cotta. 574 pp. 8°. New York, 1870.

Pynchon (Thomas R.) Introduction to chemical physics. 534 pp. 1st ed., Hartford, 1870; 2d ed., New York, 1872.

Ravenel (W. H.) On the relation of the tendril to the phyllotaxis in certain cucurbitaceous plants. 4 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— On the seemingly one-ranked leaves of the *Baptisia perfoliata*, with remarks by Asa Gray, Cambridge, Mass. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Remsen (Ira). Bildung des Protocatechinaldehyds aus Piperonal und Synthese der Piperonylsäure.

[In "Zeitschrift für Chemie," 1871.]

— Oxydation der Toluolsulfosäuren.

[In "Zeitschrift für Chemie," 1871.]

— Ueber die Einwirkung von schmelzendem Kalihydrat auf Sulfoxybenzoesäure.

[In "Zeitschrift für Chemie," 1871.]

— Ueber die Homologe des Naphthalins.

[In "Annalen der Chemie und Pharmacie," 1870.]

— Ueber isomere Sulfoalicylsäuren.

[In "Zeitschrift für Chemie," 1871.]

— Ueber eine neue Bildungsweise der Paraoxybenzoesäure.

[In "Zeitschrift für Chemie," 1871.]

Remsen (Ira)—continued.

— Ueber die Parasulfobenzoesäure.

[In "Zeitschrift für Chemie," 1871.]

— Ueber Piperinsäure und Derivate.

[In "Annalen der Chemie und Pharmacie," 1871.]

— Vorläufige Notizen.

[In "Berichte der chemischen Gesellschaft zu Berlin," 1872.]

Rockwood (Charles G., jr.) The daily motion of a brick tower caused by solar heat.

[In "American Journal of Science and Arts," August, 1872.]

— Notes on recent earthquakes.

[In "American Journal of Science and Arts," July, 1872.]

Rogers (Joseph). Steamboiler-water and incrustations. 9 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Rood (Ogden N.) On the nature and duration of the discharge of a Leyden jar connected with an induction-coil.

[In "American Journal of Science," 1st part, September, 1869; 2d part, September, 1871; 3d part, October, 1872.]

— On a theory proposed by Fresnel.

[In "American Journal of Science," January, 1867.]

Sharples (Stephen P.) Contributions to physics from the laboratory of the Lawrence Scientific School.

— On a new salt containing tin, caesium, and chlorine.

— On some minerals from Newlin Township, Chester County, Pennsylvania.

— On some rocks and other dredgings from the Gulf-Stream.

Sherman (W. H.) On the production of sulphide of mercury by a new process, and its use in photography. 2 pp.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

Silliman (Benjamin). On the relation between the intensity of light produced from the combustion of illuminating-gas and the volume of gas consumed. 10 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Smith (Eugene A.) Remarks on the geology of the Mississippi bottom. 9 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Smith (J. Lawrence). A convenient form of a specific-gravity flask.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— On bending glass tubes for fitting apparatus.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Smith (J. Lawrence)—continued.

— Phosphates of soda and potash. 1 p.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— The precise geographical position of the large masses of meteoric iron in Northern Mexico, with a description of a new mass, the San Gregorio meteorite. 3 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— A regulator to maintain a constant level in the water-baths of a laboratory. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

— A simple, clean, and convenient little stand for small filtrations.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Snell (Ebenezer S.) Natural philosophy for colleges. A revision of Professor Olmstead's work. 2d ed. New York.

Staley (Cady). New edition of "Gillespie's written notes on the strength of materials." 150 pp. 16°. *Schenectady*, 1870.

— New edition of "Gillespie's treatise on levelling, topography and higher surveying." 175 pp. Royal 8°. New York, 1872.

Steindachner (Franz). Abhandlungen ichthyologischen und herpetologischen Inhaltes, veröffentlicht in den Jahren 1868-70 in den "Sitzungs-Berichten der Wiener Akademie."

— Herpetologische Notizen. 2tes Heft (mit 8 Tafeln). 1870.

— Ichthyologischer Bericht über eine nach Spanien und Portugal unternommene Reise (begonnen im Jahre 1865). Fortsetzung v und vi (mit 12 Tafeln), 1868.

— Ichthyologische Notizen. Heft ix (mit 8 Tafeln), 1869; Heft x (mit 8 Tafeln), 1870.

— Ueber einige Pleuronectiden, Salmoniden etc. der Decastria Bay und von Vidi Leon. 1870.

— Zur Fisch-Fauna des Senegal. (3 Abhandlungen, mit 23 Tafeln.) 1869-70.

Stoddard (O. N.) The nature of electric discharges. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Storer (Francis Humphreys). A compendious manual of qualitative chemical analysis. (With Charles W. Eliot.) New York, Van Nostrand, 1869.

— A cyclopedia of quantitative analysis Part i. Boston and Cambridge, Sever, Francis & Co., 1870.

Storer (Francis Humphreys)—continued.

— Examples for practice in quantitative chemical analysis.

[In "The Massachusetts Teacher," 1870.]

— On nitric acid and chlorate of potassium as an oxidizing mixture applicable to sulphur, sulphides, chromium, arsenic, organic matters, etc.

[In "American Journal of Science," 1869.]

— On the simultaneous occurrence of a soluble lead-salt and free sulphuric acid in sherry-wine, with observations on the solvent action of alcoholic saline solutions upon sulphate of lead.

[In "Proceedings of the American Academy of Arts and Sciences," 1868.]

— Quick wet assay of galena and other compounds of lead.

[In "London Chemical News," 1870.]

— Review of Professor Johnson's "How crops grow."

[In "American Journal of Science," 1869.]

Stuntz (G. R.) On some recent geological changes in Northeastern Wisconsin. 4 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Swallow (G. C.) Remarks on the geological map and section of the rocks of Missouri. (Abstract.)

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Talbutt (J. H.) On the precipitation of zinc and manganese as sulphides.

— On the quantitative separation of tin and tungsten.

Taylor (Edward R.) Improvements upon Eggertz's method for determining combined carbon in steel. 1 p.

[In "Proceedings of the American Association for the Advancement of Science," 1871.]

Tenney (Sanborn). Geology for teachers, classes, and private students. 366 pp. 12°. Philadelphia, 1869.

— A manual of zoölogy for schools, colleges, and the general reader. 569 pp. New York, 1872.

Thompson (William M.) Traces of glacial action on the flank of Mount Lebanon. 4 pp.

[In "Proceedings of the American Oriental Society," vol. x.]

Thurston (Robert H.) A description of the hull, machinery, armor, and armament of H. B. M. ironclad "Monarch."

[In "Journal of the Franklin Institute," April, 1870.]

— The same. (Pamphlet.)

WRIGHT.

Wright (A. O.) On the mineral well at Waterloo, Wisconsin. 1 p.

[In "Transactions of the Wisconsin Academy of Sciences, Arts and Letters," 1870-72.]

Wright (Charles). Flora cubana. 216 pp. Royal 8°. Published by the "Royal Academy of Sciences," at Havana, 1868-71.

Wurtz (Henry). Investigations of flame-temperatures, in their relations to composition and luminosity. (In conjunction with Benjamin Silliman.) 10 pp.

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WURTZ.

Wurtz (Henry)—continued.

— On the grahamite of West Virginia, and the new Colorado resinoid.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

— On some new chemical relations of metallic aluminium. 5 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1868.]

— Studies in chemical geogony. 11 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

XIII.—PHILOLOGY AND TRANSLATIONS.

ALLEN.

Allen (William F.) An introduction to Latin composition. 12°. *Boston*, 1870.

——— Latin lessons, adapted to the "Manual Latin grammar." (In connection with J. H. Allen, of Cambridge.) 12°. *Boston*, 1869.

——— Latin reader. Selections from classical authors. (In connection with J. H. Allen, of Cambridge.) 12°. *Boston*, 1869.

——— Manual Latin grammar. (In connection with J. H. Allen, of Cambridge.) 12°. *Boston*, 1868.

Abbot (Ezra). On the comparative antiquity of the Sinaitic and Vatican manuscripts of the Greek bible. 12 pp.

[In "Proceedings of the American Oriental Society," vol. x.]

——— On the golden rule in the Chinese classics.

[In "Proceedings of the American Oriental Society," *Boston*, 1870.]

Avery (J.) Statistics of Sanscrit verbal forms in the Sâma-Veda.

[In "Proceedings of the American Oriental Society," *Boston*, 1872.]

Baird (Henry M.) Homer and his English translators.

[In "Methodist Quarterly Review," July and October, 1872.]

Benedict (Nehemiah W.) Pronunciation of Greek and Latin. 12 pp.

[In "Proceedings of University Convocation," held at Albany, New York, August 1-3, 1871.]

——— The same. (Pamphlet.)

Boise (James R.) First lessons in Greek, adapted to Hadley's Greek grammars, and intended as an introduction to Xenophon's Anabasis. 150 pp. 8°. *Chicago*, 1870.

——— The first six books of Homer's Iliad, with explanatory notes, intended for beginners in the Epic dialect. 240 pp. 8°. *Chicago*, 1869.

DRISLER.

Boise (James R.)—continued.

——— Selections from various Greek authors, for the first year in college; with explanatory notes and references to Goodwin's Greek grammar and to Hadley's large and smaller grammars. Prepared in conjunction with Professor John C. Freeman, Chicago University. 400 pp. 8°. *Chicago*, 1872.

Boris (Pierre Julien). Formation of French verbs. One card, printed on both sides; rules on one side, and exceptions on the other; comprising all the verbs of the language; size, 10 inches by 8. 1872.

——— Tables of pronunciation in French: French simple and compound vowels compared with English sounds. One book, 11 pp., 5 inches by 3. One card, 8 inches by 6. 1869.

Bunker (Alonzo). On a Karen inscription-plate. 5 pp.

[In "Proceedings of the American Oriental Society," vol. x.]

Campbell (Gabriel). New German course. 12°. *New York*, 1867.

Coppée (Henry). The Pallas of Virgil. Translated into English hexameters.

[In "The Penn Monthly," March, 1872.]

——— The story of crazy Martha. Translated from the Provençal.

[In "Putnam's Magazine," February, 1870.]

Crowell (Edward P.) Cicero de officiis. With notes. *Philadelphia*, 1873.

——— Cicero de senectute et de amicitia. With notes. *Philadelphia*, 1872.

Drisler (Henry). English-Greek lexicon, by C. D. Yonge, greatly enlarged in its vocabulary, with an essay on order of words in Attic Greek, by Professor Short;

DRISLER.

Drisler (Henry)—continued

a treatise on Greek synonyms from the French of Dillon; and an appendix of proper names by H. Drisler. 896 pp. Large 8°. *New York*, 1870.

— *Principia Latina*. Part ii. A Latin reader, revised and enlarged from Dr. Smith's, with extracts from Cæsar's "Gallic war." 12°. *New York*, 1866.

Feuling (John B.) Phocylides' poema admonitorium. 1st American ed., with introduction and brief notes in Latin. *Andover*, 1869.**Gildersleeve** (Basil L.) Latin exercise-book. *New York*, 1870.

— Latin grammar. *New York*, 1867-68.

Goodwin (William Watson). Elementary Greek grammar. *Boston*, Ginn Brothers, 1872.

— Greek moods and tenses. 4th ed. 12°. 264 pp.

— Greek reader. (In conjunction with J. H. Allen, of Cambridge.)

— On the aorist subjunctive and the future indicative with $\epsilon\pi\alpha\varsigma$ and $\epsilon\mu\eta$.

[In "Transactions of the American Philological Association, 1868-70, vol. i, p. 46.]

— On Merkel's "Æschylus."

[In "Proceedings of the American Oriental Society," 1872.]

— Plutarch's morals. Translated by several hands. Corrected and revised by W. W. Goodwin. With an introduction by R. W. Emerson. 5 vols. 8°. *Boston*, Little, Brown & Co., 1870.

— Ueber die Classification der griechischen hypothetischen Sätze.

[In the "Philologus," vol. xxviii, p. 741. *Göttingen*, 1869.]

Greenough (James Bradstreet). On Delbrick's "Use of the subjunctive and optative."

[In "North American Review," October, 1871.]

Gulick (Luther H.) On the relation of Chinese and Mongolian.

[In "Proceedings of the American Oriental Society," October, 1871.]

— A vocabulary of the Ponapa dialect.

[In "Proceedings of the American Oriental Society," vol. x, No. 1, p. 109.]

Hackett (Horatio B.) Hebrew exercises.

— Plutarch's "De sera numinis vindicta."

Hadley (James). Elements of the Greek language. Taken from the Greek grammar of James Hadley. vi, 246 pp. 12°. *New York*, 1869.

HARRINGTON.

Hadley (James)—continued.

— Notice of W. C. Bryant's translation of Homer's Iliad.

[In "College Courant," New Haven, April 16, 1870.]

— Notice of Drisler's edition of Yonge's English-Greek lexicon.

[In "North American Review," 1870, vol. cxi, pp. 211-217.]

— Notice of M. Müller's "Chips from a German workshop."

[In "New-Englander," 1869, vol. xxviii, pp. 797-801.]

— Notice of W. D. Whitney's "Language and the study of language."

[In "New-Englander," 1867, vol. xxvi, pp. 794-800.]

— Notice of W. D. Whitney's "Oriental and linguistic studies."

[In "New-Englander," 1873, vol. xxxii, pp. 184-186.]

— On the Byzantine pronunciation of Greek in the tenth century, as illustrated by a MS. in the Bodleian Library. Read to the American Oriental Society, May 18.

[In "Transactions of the American Philological Association," 1872.]

— On the continuation of Westphal's Greek grammar. Read to the American Oriental Society, October 13, 1869.

— On the first part of Westphal's "Methodical grammar of the Greek language." Read to the American Oriental Society, October 20, 1870.

[In "North American Review," 1871, vol. cxii, pp. 441-454.]

— On the formation of the passive voice in various languages. Read to the Connecticut Academy.

— On the language of Palestine at the time of Christ.

[In HACKETT and AMBOTT's edition of "Smith's Bible dictionary".]

— On the nature and theory of the Greek accent. Read to the American Oriental Society, October 21, 1869.

[In "Transactions of the American Philological Association," 1868-70, pp. 1-19.]

— Remarks on the uses of the Latin subjunctive. Read to the Classical and Philological Society, May, 1870.

Hall (Fitz Edward). Thirteen inedited letters from Sir William Jones to Mr. (afterwards Sir) Charles Wilkins.

[In "Proceedings of the American Oriental Society," vol. x, 8 pp.]

Harrington (Calvin S.) Ethics of Latin comedy.

[In "Methodist Quarterly Review," October, 1870.]

HARRINGTON.

Harrington (Calvin S.)—continued.

— **T. Macci Planti Captivi, Trinummus, et Rudens.** With English notes critical and explanatory. *New York*, 1870.

Joynes (Edward S.) Essay on the teaching of modern languages in American colleges. [*In "Virginia Educational Journal,"* 1868.]

— On teaching the elements of Latin and Greek. Report before the Educational Association of Virginia, 1870.

— A practical introduction to French pronunciation. 32 pp. 18°. *New York*, 1868.

— Student's series of classical French plays. 12°. *New York*, 1871-72.

CONTENTS.

Le Cid. A tragedy, by Corneille. 3d ed. 110 pp.
Athalie. A tragedy, by Racine. 2d ed. 110 pp.
Le Misanthrope. A comedy, by Molière. 130 pp.

Kendrick (Asahel C.) Edition of the *Anabasis* of Xenophon, with notes and vocabulary. 500 pp. 12°. *New York*, 1873.

— Greek exercises adapted to Kendrick's *Bullions's* grammar. 127 pp. 12°. *New York*, 1869.

— Revision of *Bullions's* Greek grammar. 449 pp. 12°. *New York*, 1868.

March (Francis Andrew). On the origin of language.

[*In "Transactions of the American Philological Association,"* 1871.]

Martin (William A. P.) On the style of Chinese prose.

[*In "New-Englander,"* April, 1872.]

Mason (Francis). The Pali language from a Burmese point of view. 5 pp. 8°.

Mather (Richard H.) Selections from Herodotus and Thucydides, with notes. *Boston*, 1872.

Morrison (W. J. P.) Vocabularies of certain Himalayan dialects.

[*In "Proceedings of the American Oriental Society,"* 1871.]

Packard (Lewis R.) On Greek pronunciation.

[*In "New-Englander,"* January, 1871.]

Pinart (A.) Vocabulary of an Aino dialect.

[*In "Proceedings of the American Oriental Society,"* 1872.]

Rhea (Samuel A.) Brief grammar and vocabulary of the Kurdish language of the Hakari district. 3 pp.

[*In "Proceedings of the American Oriental Society,"* vol. x.]

Rolfe (William J.) Shakespeare for the school and family. *New York* [*Harper*], 1872.

Schele de Vere (M.) French exercise-book. *New York*, 1867.

— French grammar. *New York*, 1867.

WHITNEY.

Short (Charles). The order of words in Attic-Greek prose. 115 pp. Royal 8°. *New York*, 1870.

Sophocles (Evangelinus Apostolides). Greek lexicon of the Roman and Byzantine period (from B. C. 146 to A. D. 1100). 1188 pp. Royal 8°. *Boston, Little, Brown & Co.*, 1870.

Stengel (F.) On the influence of the Semitic languages on the Spanish.

[*In "Proceedings of the American Oriental Society,"* New Haven, 1872.]

Taintor (E. C.) On Sanskrit inscriptions from Buddhist temples in China.

[*In "Proceedings of the American Oriental Society,"* New Haven, October, 1870.]

Trumbull (J. H.) On the Algonkin name Manit or Manitou.

[*In "Proceedings of the American Oriental Society,"* 1869.]

— On onomatopœia in the Algonkin languages.

[*In "Transactions of the American Philological Association,"* 1869-70.]

Tyler (William S.) Plutarch "On the delay of the Deity in the punishment of the wicked." With notes. Revised ed. *New York*.

Van Name (Addison). On Japanese personal pronouns and their substitutes.

[*In "Proceedings of the American Oriental Society,"* 1871.]

— On the Japanese use of the Chinese mode of writing.

[*In "Proceedings of the American Oriental Society,"* 1872.]

Ward (W. H.) On alleged Phœnician and Nabathean inscriptions. (In conjunction with A. Van Name.)

[*In "Proceedings of the American Oriental Society,"* 1872.]

— On the Moabite inscription of King Mesha.

[*In "Bibliotheca Sacra,"* July, 1870.]

— On the Ninevitic cuneiform inscriptions in this country.

[*In "Proceedings of the American Oriental Society,"* 1871.]

Whitney (William D.) Collation of a second manuscript of the *Atharva-Veda Pratiçākhyā*. 16 pp.

[*In "Journal of the American Oriental Society,"* vol. x, No. 4.]

— On Bell's "Visible speech." *New Haven, October*, 1868.

[*In "North American Review,"* July, 1866.]

— On comparative grammars.

[*In "North American Review,"* July, 1870.]

— On Cox's mythology of the Aryan nations.

[*In "North American Review,"* January, 1871.]

WHITNEY.

Whitney (William D.)—continued.

— On Haug's views of Sanscrit accentuation.

[In "Proceedings of the American Oriental Society," May, 1871.]

— On Müller's translation of the Rig-Veda.

[In "North American Review," July, 1871.]

— On Richthofen's explorations in China and Japan.

[In "Proceedings of the American Oriental Society," May, 1871.]

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WHITNEY.

Whitney (William D.)—continued.

— Remarks on the study of Hindoo religions.

[In "Proceedings of the American Oriental Society," October, 1872.]

— The *Tāittiriya Prâṭiśākhya*, with its commentary, the *Tribhāṣhyaratna*. Text, translation, and notes. 469 pp.

[In "Journal of the American Oriental Society," vol. ix.]

XIV.—PHILOSOPHY.

ALEXANDER.

- Alexander** (Stephen). A philosophical confession of faith.
[In "Princeton Review."]
- Atwater** (Lyman H.). The fundamental principles of morals.
[In "Princeton Review."]
- Materialism, physiological psychology.
[In "Princeton Review."]
- Professional ethics in legal practice.
[In "Princeton Review."]
- Bascom** (John). The human intellect.
[In "Bibliotheca Sacra," January, 1870.]
- Instinct.
[In "Bibliotheca Sacra," October, 1871.]
- Psychology. 345 pp. *New York*, 1869.
- Science, philosophy, and religion. 311 pp. *New York*, 1871.
- Conrad** (Victor L.). Hickok's mental and moral science. 6 pp.
[In "Quarterly Review of the Lutheran Church," July, 1868.]
- Coppée** (Henry). Elements of logic, designed as a manual of instruction. New ed. *Philadelphia*, 1872.
- Everett** (Charles Carroll). The science of thought, a system of logic. 423 pp. 8°. *Boston*, published first by William V. Spencer in 1869; at present by Nichols & Hall.
- Fairchild** (James H.). Moral philosophy. 12°. *Oberlin*, 1869.
- Hopkins** (Mark). The law of love and love as a law, or moral science, theoretical and practical. 342 pp. 12°. *New York*, 1869.

PORTER.

- Lewis** (Tayler). Criticism of Plato.
- McCosh** (James). Christianity and positivism. *New York*.
- The laws of discursive thought. *New York*.
- Peirce** (Charles Sanders). Grounds of validity of the laws of logic.
[In "Journal of Speculative Philosophy," vol. ii, pp. 193-208.]
- The logic of relatives.
[In "Memoirs of the American Academy," vol. x, 62 pp. *Boston*, 1870.]
- Questions concerning certain faculties claimed for man.
[In "Journal of Speculative Philosophy," vol. ii, pp. 103-114.]
- Some consequences of four incapacities.
[In "Journal of Speculative Philosophy," vol. ii, pp. 140-157.]
- Upon logical comprehension and extension.
[In "Proceedings of the American Academy," vol. vii, pp. 416-432.]
- Porter** (Noah). Elements of intellectual science. A manual for schools and colleges. Abridged from "The human intellect."
- The human intellect. (With an introduction upon psychology and the human soul.) 692 pp. 8°.
- The sciences of nature versus the science of man: a plea for the science of man.

XV.—POETRY.

ALLEN.

Allen (William F.) *Slave songs of the United States*, by W. F. Allen, Chas. P. Ware, Lucy McKin Garrison. 8°. *New York*, 1867.

Coppée (Henry). *The emperor of China: a Peter-Pindaric poem.*

[In "Appleton's Journal," 1871.]

——— *Sheridan's raid: a comic poem.*

[In "Appleton's Journal," 1871.]

Holmes (Oliver Wendell). *Poem read at the annual dinner of the Massachusetts Medical Society.* 2 pp.

[In "Boston Medical and Surgical Journal," June 9, 1870.]

MURRAY.

Holmes (Oliver Wendell)—continued.

——— *Under the willows, and other poems.* 12°. *Boston, Ticknor & Fields*, 1869.

Lowell (James Russell). *The cathedral: a poem.* 53 pp. 16°. *Boston, Fields, Osgood & Co.*, 1870.

Murray (David). *The olden time: a poem read at the one hundred and fiftieth anniversary of the First Dutch Church, New Brunswick, N. J.*

[In "Memorial volume," New Brunswick, N. J., 1867.]

——— *Prigmore Swamp: a poem read at the anniversary of the New Brunswick Historical Club.* 1871.

XVI.—POLITICAL ECONOMY AND SOCIAL SCIENCE.

ADAMS.

Adams (Henry). A chapter of Erie and other essays. (In conjunction with his brother, Charles Francis Adams, jr.) 12°. *Boston, Ticknor & Fields, 1871.*

Armitage (William E.) *The German Sunday.* 10 pp.

Atwater (Lyman H.) *Ethics and economics of commercial speculation.*
[In "Princeton Review."]

——— *Labor and capital in their economic and Christian aspects.*
[In "Princeton Review."]

Barnard (Frederick A. P.) *Modern industrial progress, and the influences accelerating its march.* Address before the American Institute at the opening of the forty-first annual exhibition, 1872. 40 pp. 8°. *Published by the Institute.*

Bascom (John). *Civil law in social reform.*
[In "American Presbyterian Review," January, 1871.]

——— *Credit and consumption.* 41 pp.
[In "Bibliotheca Sacra," July, 1868.]

——— *Exchange and currency.* 43 pp.
[In "Bibliotheca Sacra," January, 1868.]

——— *Foci of the social ellipse.*
[In "Putnam's Magazine," December, 1870.]

——— *Influence of the press.*
[In "Bibliotheca Sacra," July, 1872.]

——— *Influence of the pulpit.*
[In "Bibliotheca Sacra," October, 1872.]

——— *Labor and capital.* 42 pp.
[In "Bibliotheca Sacra," October, 1868.]

——— *Man's intellectual constitution and the growth of society.* 38 pp. *October, 1868.*

——— *Seven articles of social science.*
[In "Bibliotheca Sacra," 1868.]

——— *Value and natural agents.* 46 pp.
[In "Bibliotheca Sacra," April, 1868.]

PERRY.

Bowen (Francis). *American political economy, including strictures on the management of the currency and the finances since 1861; with a chart, showing the fluctuations in the price of gold.* 495 pp. 12°. *New York, Charles Scribner & Co., 1870.*

Chadbourne (Paul Ansel). *Influence of history on individual and national action.* An address before the State Historical Society of Wisconsin. 22 pp. *Madison, 1868.*

Chapin (Aaron L.) *The relation of labor and capital.* 17 pp.

[In "Transactions of the Wisconsin Academy of the Sciences, Arts and Letters," 1870-72.]

Caverno (Charles). *Social science and woman-suffrage.* 18 pp.

Cook (George H.) *Annual lectures on agriculture.* *Trenton (N. J.), 1867-72.*

Coppée (Henry). *Where we get our coal and how.*

[In "Appleton's Journal," April, 1870.]

Fairchild (James H.) *Woman's right to the ballot.* 1869.

Hastings (S. D.) *The common-jail system of the country.* 8 pp.

Hough (Franklin B.) *On the principles of statistics as applied to the census.* 14 pp.
[In "Proceedings of the American Association for the Advancement of Science," 1868.]

Perry (Arthur Latham). *Are bank-deposits a part of the currency?*

[In "The Financier," February 24, 1872.]

——— *The balance of trade.*

[In "The Financier," March 30, 1872.]

——— *Capital and money.*

[In "The Financier," August 17, 1872.]

——— *Causes of depreciation in our paper-currency.*

[In "The Financier," January 27, 1872.]

PERRY.

Perry (Arthur Latham)—continued.

- The cost of labor.
[In "The Financier, June 15, 1872.]
- The conditions of trade.
[In "The Financier, June 22, 1872.]
- Cotton and cottons in the United States.
[In "The Financier," November 16, 1872.]
- The denomination-dollar.
[In "The Financier, April 20, 1872.]
- Does protection steady the market?
[In "The Financier, March 23, 1872.]
- Elements of political economy. 8th ed. New York, 1871.
- The farmer's advantage. An address before the Hoosac Valley Agricultural Society, 1870.
[In "Flint's Agriculture of Massachusetts," 1870-71.]
- The four fundamental principles of taxation.
[In "The Financier, February 17, 1872.]
- Free banking.
[In "The Financier, October 12, 1872.]
- The French loan.
[In "The Financier, August 24, 1872.]
- How much are greenbacks depreciated?
[In "The Financier," January 13, 1872.]
- Intimacy of economic connections.
[In "The Financier," February 3, 1872.]
- Lessons of the checks.
[In "The Financier," September 28, 1872.]

WOOLSEY.

Perry (Arthur Latham)—continued.

- Limits of legislation on economic subjects.
[In "Proceedings of the American Social Science Association," 1868.]
- The new tariff-bill.
[In "The Financier September 14, 1872.]
- Simple equitable taxation.
[In "The Financier, September 21, 1872.]
- Our Bureau of Statistics.
[In "The Financier, September 7, 1872.]
- Our golden opportunity in the world's iron-market.
[In "The Financier, October 19, 1872.]
- Some of the consequences of cheap gold.
[In "The Financier," March 2, 1872.]
- Some practical illustrations in taxation.
[In "The Financier," August 31, 1872.]
- What next?
[In "The Financier, December, 1872.]
- Woolen industries in the United States, I.
[In "The Financier," October 26, 1872.]
- Woolen industries in the United States, II.
[In "The Financier," November 2, 1872.]
- Woolsey (Theodore Dwight).** Definition and sphere of the police-power of a state.
[In "Journal of the Social Science Association," 1871.]
- Essays on divorce and divorce-legislation. New York, C. Scribner & Co., 1869.

XVII.—SERMONS.

HOPKINS.

Hopkins (Mark). The body the temple of God. Baccalaureate sermon. *Boston*, 1871.

—— The circular and the onward movement. Baccalaureate sermon. *Boston*, 1872.

—— Life. Baccalaureate sermon. *Boston*, 1870.

—— Spirit, soul, and body. Baccalaureate sermon. *Boston*, 1869.

—— Zeal. Baccalaureate sermon. *Boston*, 1868.

Peabody (Andrew Preston). Authority. Baccalaureate sermon, June 19, 1870.

—— The choice of a profession. Baccalaureate sermon, June 18, 1871.

—— Christianity immutable. Sermon at the installation of Charles E. Grinnell, at Charlestown, November 10, 1869.

WOOLSEY.

Peabody (Andrew Preston)—continued.

—— Progress in Christ, not beyond Him. A sermon preached at the installation of Rev. A. Judson Rich, at Brookfield, Massachusetts, October, 1870.

—— The rights and dangers of property. Election-sermon, January 3, 1872.

—— The sovereignty of law. Baccalaureate sermon, June 20, 1869.

—— The true aim. Baccalaureate sermon, June, 1872.

—— Unison in diversity. Sermon before the Convention of Congregational Ministers, May 30, 1872.

Woolsey (Theodore Dwight). Two sermons preached in the chapel of Yale College on the last Sunday of his presidential office, 1871.

XVIII.—THEOLOGY.

ABBOT.

Abbot (Ezra). Review of Professor Stowe's "Origin and history of the books of the Bible."

[In "North American Review," January, 1868.]

REMARKS.—The author also assisted Dr. Hackett in editing the American edition of Smith's dictionary of the Bible, published, with large additions and many corrections, in 4 volumes, New York, 1868-70. Examples of new articles or additions to articles by him may be seen under the words Air, Bible, Demoniacs, Ecclesiasticus, Gospels, John (gospel and epistles), Messiah, New Testament, Persians, Principality, Version (authorized), Word.

Barnard (Frederick A. P.) How to find the church-festivals. A communication to the General Convention of the Protestant Episcopal Church in 1871.

[In "Journal of the Convention."]

— The same. (Pamphlet.) 28 pp. 8c. 1872.

Barrows (E. P.) Companion to the Bible. 12°. *New York, American Tract Society*, 1870.

— Sacred geography and antiquities. *New York, American Tract Society*, 1872.

Bascom (John). Laws of God in society. 23 pp.

[In "Bibliotheca Sacra," January, 1868.]

— Proof of the being of God. 22 pp.

[In "Bibliotheca Sacra," October, 1867.]

Baughner (Henry L.) Christ's prophecy of his sufferings. 7 pp.

[In "Quarterly Review of the Lutheran Church,"]

— The God-angels. 13 pp.

[In "Quarterly Review of the Lutheran Church," April, 1869.]

Baughner (Henry Louis). The kingdom of Christ. 10 pp.

[In "Quarterly Review of the Lutheran Church," April, 1870.]

Brown (J. Allen). Book of worship. 5 pp.

[In "Quarterly Review of the Lutheran Church," January, 1871.]

COWLES.

Brown (J. Allen)—continued.

— Exposition of I. Corinthians xv, 22. 9 pp.

[In "Quarterly Review of the Lutheran Church," July, 1872.]

— The general synod and its assailants. 28 pp.

[In "Quarterly Review of the Lutheran Church," January, 1867.]

— Dr. Hodge on "The Lutheran doctrine" of the person of Christ. 25 pp.

[In "Quarterly Review of the Lutheran Church," April, 1872.]

— Dr. Krauth's "Metaphysics of the Lord's supper." 20 pp.

[In "Quarterly Review of the Lutheran Church," January, 1872.]

— Papal infallibility. 36 pp.

[In "Quarterly Review of the Lutheran Church," October, 1871.]

— Protestant infallibility. 19 pp.

[In "Quarterly Review of the Lutheran Church," April, 1872.]

— The review. 12 pp.

[In "Quarterly Review of the Lutheran Church," January, 1871.]

— Union in the Lutheran Church. 27 pp.

[In "Quarterly Review of the Lutheran Church," April, 1871.]

Chadbourne (Paul Ansel). Natural theology. Twelve lectures delivered before the Lowell Institute. 320 pp., 1867; 6th ed., 1871.

Coleman (Lynfan). The apostolical and primitive church. 413 pp. 12°. *Philadelphia*.

Conrad (Victor L.) Sprague's "Annals of the American Lutheran pulpit. 5 pp.

[In "Quarterly Review of the Lutheran Church," April, 1869.]

Cowles (Henry). Notes on Ezekiel and Daniel. 12°. *New York*, 1867.

— Notes on Isaiah. 12°. *New York*, 1869.

COWLES.

- Cowles** (Henry)—continued.
 — Notes on Jeremiah. 12°. *New York*, 1870.
 — Notes on the minor prophets. 12°. *New York*, 1867.
 — Notes on Proverbs, Prophets, Ecclesiastes, and Solomon's Song. 12°. *New York*, 1870.
 — Notes on the Psalms. 12°. *New York*, 1872.
 — Notes on the Revelation of John. 12°. *New York*, 1872.
Crosby (Howard). Bible manual. 18°. *New York*, 1871.
 — The healthy Christian. 18°. *New York*, 1872.
 — Life of Jesus. 8°. *New York*, 1871.
Ehrehardt (C. J.). Death and the intermediate state. 33 pp.
 [In "Quarterly Review of the Lutheran Church," April, 1869.]
Ferrier (Edsall). The strength and beauty of God's sanctuary. 7 pp.
 [In "Quarterly Review of the Lutheran Church," January, 1868.]
Finney (Charles G.). On masonry. 16°. 1869.
Gilmore (Joseph H.). Declamations and dialogues for Sunday-schools. 251 pp.
Hackett (Horatio B.). Commentary on the Acts of the Apostles.
 — Illustrations of scripture.
Hadley (James). Notice of Rev. J. W. Dale's "Classic baptism."
 [In "New-England," 1867, vol. xxvi, pp. 751-757.]
 — On the apocryphal book of Enoch. (Read at a social gathering.)
 Note.—Unedited as yet.
Hay (Charles A.). The Codex sinaiticus. 18 pp.
 [In "Quarterly Review of the Lutheran Church," January, 1871.]
 — The communion of saints. 11 pp.
 [In "Quarterly Review of the Lutheran Church," July, 1872.]
 — The ministry; article 5 of the Augsburg confession. 38 pp.
 [In "Quarterly Review of the Lutheran Church," October, 1870.]
 — Sacred philology and exegesis. (Inaugural address.) 8 pp.
 [In "Quarterly Review of the Lutheran Church," January, 1867.]
 — Schmid's "Dogmatic theology." (4 articles.) 52 pp.
 [In "Quarterly Review of the Lutheran Church," January, 1868, to July, 1870.]

MARTIN.

- Hopkins** (Mark). Exclusive traits of Christianity. Lectures. *Boston*, 1871.
Hovey (Alvah). God with us; or, the person and work of Christ.
 — The miracles of Christ critically examined.
 — State of the impenitent dead.
Jackson (Abner). The Holy Scriptures the teacher of wisdom. (Baccalaureate sermon.) 1871.
Jacobs (Henry Eyster). The assurance of faith. [From Chemnitz.] 18 pp.
 [In "Quarterly Review of the Lutheran Church," April, 1871.]
 — Chemnicius redivivus. 46 pp.
 [In "Quarterly Review of the Lutheran Church," October, 1870.]
 — Conversion. [From Chemnitz.] 9 pp.
 [In "Quarterly Review of the Lutheran Church," October, 1867.]
 — How God concurs in the wicked deeds of men. 13 pp.
 [In "Quarterly Review of the Lutheran Church," April, 1867.]
 — The Lutheran doctrine of the Sabbath and the Lord's day. 23 pp.
 [In "Quarterly Review of the Lutheran Church," January, 1869.]
 — Martin Chemnitz and the council of Trent. 18 pp.
 [In "Quarterly Review of the Lutheran Church," July, 1870.]
 — The Sabbath question in its historical relations. 32 pp.
 [In "Quarterly Review of the Lutheran Church," October, 1869.]
 — The third commandment. [From Gerhardt.] 14 pp.
 [In "Quarterly Review of the Lutheran Church," October, 1868.]
Jacobs (Michael M.). The image of God. 11 pp.
 [In "Quarterly Review of the Lutheran Church," January, 1868.]
Kendrick (Asahel C.). Lange on Hebrews. Translated, revised, and copiously annotated. 250 pp. Large 8°. *New York*.
Lewis (Tayler). Life and sermons of Rev. Dr. Nott.
 — Translation of Lange's Commentary on Genesis. *New York*.
 — Translation of Lange's Ecclesiastes. *New York*.
 — Translation of Lange's Job. *New York*.
Martin (Adam). Luther on the office of the ministry. 9 pp.
 [In "Quarterly Review of the Lutheran Church," April, 1870.]

MEYER.

Meyer (Carl). The New Testament in German, with notes. *New York, American Tract Society, 1867.*

Potter (Eliphalet Nott). New edition of the work of his father on the "Philosophy of religion."

Ripley (Henry J.) Church-polity.
— Commentary on the Acts of the Apostles.

— Commentary on the Epistle to the Hebrews.

— Commentary on the Epistle to the Romans.

— Commentary on the four gospels.
— Homiletics.

Schmucker (Samuel S.) The Church of the Redeemer. 281 pp. *Philadelphia, 1867.*

— Fraternal appeal for Christian union. 1872.

— The incarnation, the Christology, and soteriology: on the second article of the Augsburg confession. 31 pp.

[In "Quarterly Review of the Lutheran Church," October, 1868.]

Short (Charles). Review of "A harmony of the four gospels in Greek by F. Gardine, D. D."

[In "The Church and the World."]

— Review of the Psalms chronologically arranged. An amended version, with notes by four minds. 12°. *London, 1870.*

[In "Church Journal."]

— Review of St. Paul's Epistle to the Romans, with notes, by C. J. Vaughan, D. D. 12°. *London, 1870.*

Stearns (William A.) Recent questions of unbelief.

[In "Bibliotheca Sacra," June, 1870.]

Stoever (M. L.) Covenant of salt. 5 pp.

[In "Quarterly Review of the Lutheran Church," October, 1867.]

— The meaning of the word *selah*. 5 pp.

[In "Quarterly Review of the Lutheran Church," April, 1869.]

Valentine (Milton). Completeness in Christ. 17 pp.

[In "Quarterly Review of the Lutheran Church," October, 1870.]

— The dynamics of success. 15 pp.

[In "Quarterly Review of the Lutheran Church," January, 1872.]

— Faith the essential element for right living. 16 pp.

[In "Quarterly Review of the Lutheran Church," October, 1872.]

Valentine (Milton)—continued.

— Full fidelity to God's gifts. [Baccalaureate discourse.] 11 pp.

[In "Quarterly Review of the Lutheran Church," October, 1868.]

— God's care of His church as exhibited in the reformation. 15 pp.

[In "Quarterly Review of the Lutheran Church," April, 1870.]

— The greatness of being useful. 13 pp.

[In "Quarterly Review of the Lutheran Church," January, 1870.]

— Justification by faith. 44 pp.

[In "Quarterly Review of the Lutheran Church," October, 1869.]

— The reformation. 13 pp.

[In "Quarterly Review of the Lutheran Church," January, 1868.]

— Relation of sacred history to proper theological education. (Inaugural address.) 12 pp.

[In "Quarterly Review of the Lutheran Church," January, 1867.]

— Revivals. 27 pp.

[In "Quarterly Review of the Lutheran Church," April, 1868.]

— The right to the name Lutheran. 16 pp.

[In "Quarterly Review of the Lutheran Church," January, 1872.]

— Sunday-school books. 7 pp.

[In "Quarterly Review of the Lutheran Church," April, 1872.]

— The Theistic argument from final causes. 30 pp.

[In "Quarterly Review of the Lutheran Church," April, 1871.]

Welch (Ransom Bethune). Series of articles on the Greek Church.

[In "The Methodist Episcopal Quarterly Review."]

Wilkin (J. F.) John's message. 10 pp.

[In "Quarterly Review of the Lutheran Church," January, 1868.]

— The millenium. 18 pp.

[In "Quarterly Review of the Lutheran Church," April, 1867.]

Woolsey (Theodore Dwight). Historical credibility of Luke ii, 1-5.

[In "New-Englander," October, 1869.]

— On the year of Christ's birth.

[In "Bibliotheca Sacra," April, 1870.]

— The religion of the future.

[In "New-Englander," July, 1869.]

— The religion of the present and of the future. *New York, C. Scribner & Co., 1871.*

ADDENDA.

ATHERTON.

Atherton (George W.) Regular contributions to the "New York Independent" during the years 1870, 1871, 1872.

Brackett (Cyrus F.) The "Bowdoin Scientific Review." A fortnightly journal. 2 v. 8°. 1870-1872. (In conjunction with Professor G. L. Goodale.)

Brown (Samuel Gilman). Inaugural address on the functions of the American college. 8°.

— Life of Rufus Choate.

Bryant (Charles). On the habits of the northern fur seal (*Callorhinus ursinus*), with a description of the Pribyloff group of islands.

[In "Bulletin of the Museum of Comparative Zoölogy," vol. 2, pp. 89-108, August, 1870.]

Cabell (James L.) Contributions to reviews and scientific journals.

Doolittle (Theodore Sandford). A thanksgiving discourse. *Schenectady*, 1866.

Draper (John William). Description of the construction and use of a silvered-glass telescope, 15½ inches in aperture.

[In the "Smithsonian Contributions to Science."]

— Distribution of heat in the solar spectrum.

[In "American Journal of Science and Arts," 1872.]

— History of the American civil war. 3 v. 8°. *New York, Harper & Brothers*, 1870.

— History of the intellectual development of Europe. 7th ed. *New York, Harper & Brothers*, 1869.

— A report on the deep-sea soundings in the tropical Atlantic, made during the cruise of the New York school-ship *Mercury*.

[In the "Smithsonian Contributions to Science."]

SCUDDER.

Goodale (George Lincoln). The "Bowdoin Scientific Review." A fortnightly journal. 2 v. 8°. 1870-1872. (In conjunction with Professor C. F. Brackett).

Hoppin (James M.) The office and work of the Christian ministry. 620 pp. Crown 8°. *New York, Sheldon & Co.*, 1869.

Johnson (Edwin E.) Various articles for the "Churchman."

Kimball (James P.) On the Cretaceous age of silver-deposits in Chihuahua, Mexico. 9 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1869.]

Mallet (John W.) Various contributions to the "Proceedings of the Royal Society," "British Association," and scientific journals, 1867-1872.

Mead (H.) Various contributions to the "Bibliotheca Sacra" and the "Congregational Quarterly."

Mears (John W.) American Presbyterian Weekly. Double 4°.

— Beggars of Holland and grandees of Spain. 2d ed. 477 pp. 18°.

— Reunion Assembly reports. Double 4°.

— Story of Madagascar.

Note.—In press.

Ross (A. Hastings). Various contributions to the "Bibliotheca Sacra" and the "Congregational Quarterly."

Sadtler (Samuel Philip). On the iridium-compounds. *Göttingen, University press of E. A. Huth*, 1871.

Scudder (Samuel H.) Considerations drawn from the study of the Orthoptera of North America. 2 pp.

[In "Proceedings of the American Association for the Advancement of Science," 1867.]

SMITH.

Smith (Francis H.) Various contributions to scientific journals, 1869.

Terry (J. P.) Various contributions to the "Bibliotheca Sacra" and the "Congregational Quarterly."

Thacher (Thomas A.) A Latin grammar for the use of schools, by J. N. Madvig, professor of Latin literature, Copenhagen. Translated from the German, with the sanction and coöperation of the author, by the Rev. George Wood, A. M., of University College, Oxford, rector of Sully, Glamorganshire. The 1st American from the 5th English ed.; carefully revised and

WATSON.

Thacher (Thomas A.)—continued.

compared with the German editions of 1857 and 1867, with re-translations of portions of the work. 504 pp. 8°. *Boston, Ginn Brothers & Co., 1870.*

Watson (William). Descriptive geometry, with stereoscopic views of the problems.

Note.—To be published soon by Lee & Shepard, Boston and New York, and Longmans, Green & Co., London.

—— Papers on technical education. Read before the "Society of Arts of the Massachusetts Institute of Technology." 58 pp. 8°. *Boston, 1872.*

Note.—Printed for private distribution.

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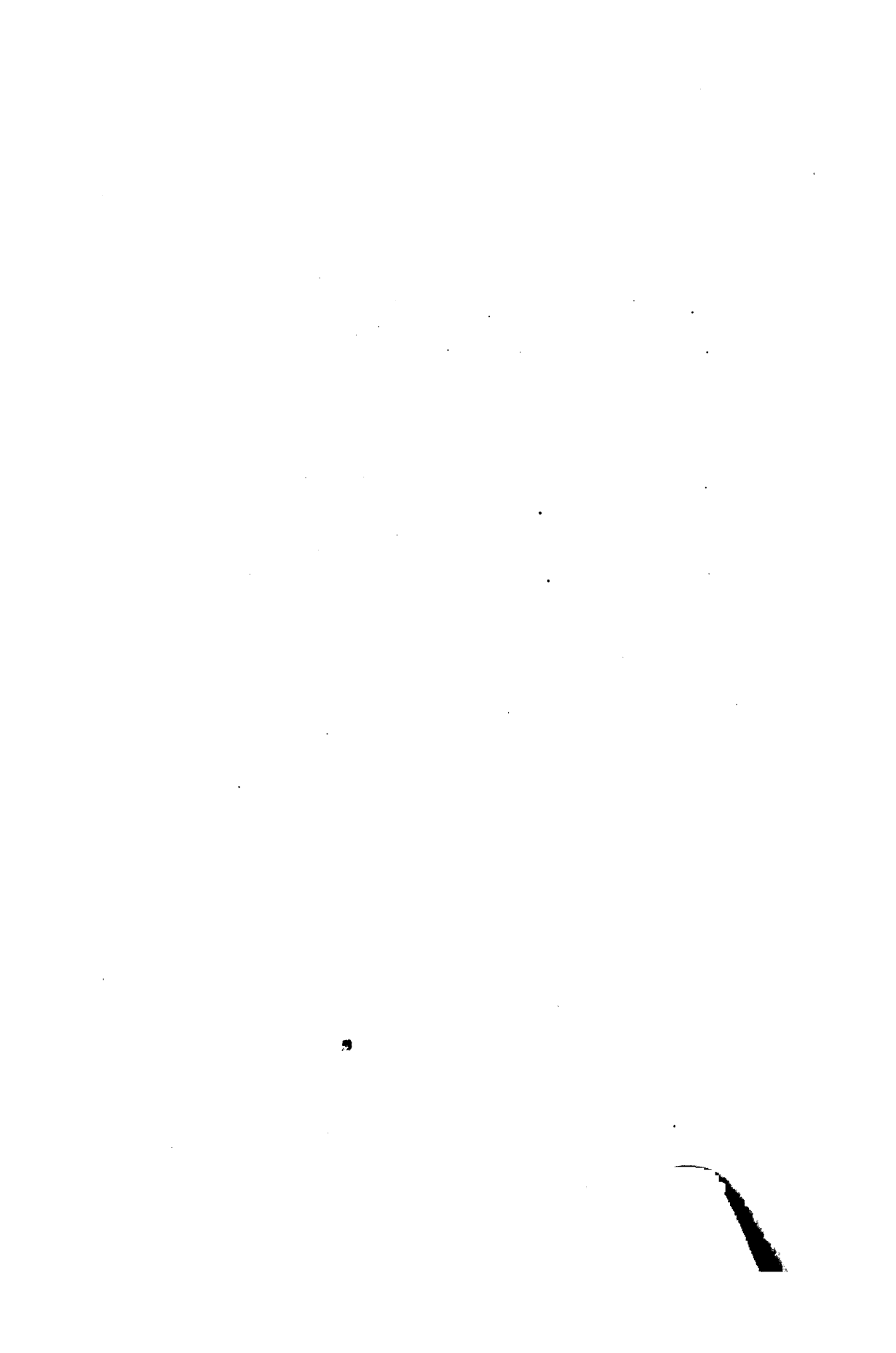
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LETTER.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, D. C., October 11, 1873.

SIR: The following pages complete the material collected by this Office respecting the college-commencements in the United States during the summer of 1873. A previous Circular of Information, printed by your order, contained similar statements respecting the commencements occurring in the northeastern section of the country.

A summary of the degrees conferred, and the amount of donations and bequests received by the institutions mentioned in the previous circular alluded to, and in these pages, will be found at the close of this pamphlet.

I have the honor to recommend that the material herewith presented be published as a Circular of Information, and am, sir,

Very respectfully, your obedient servant,

CHARLES WARREN,
Acting Commissioner.

Hon. COLUMBUS DELANO,
Secretary of the Interior.

Approved and printing ordered.

W. H. SMITH,
Acting Secretary of the Interior.

DELAWARE.

DELAWARE COLLEGE, NEWARK.

The commencement of this pleasantly situated college occurred on Wednesday, June 18, when, after what are represented as very creditable oratoric exercises, the degree of Ph. B. was conferred on the graduating class of 3. No honorary degrees are reported.

In his advice to the graduates, President Purnell urged them to treat respectfully all persons with whom they might have to do, especially those who might differ from them in opinion. "In all parties, in all associations, secular and religious, there is always both the good and the bad; the good is not confined to any one party, nor true religion to any one church. There is a patriotism that is above all party, and a religion that is above all church."

The trustees, at the meeting in commencement-week, resolved to open the college to females as well as males.

WESLEYAN FEMALE COLLEGE, WILMINGTON.

This institution, established as "The Wesleyan Female Seminary" in 1837, incorporated as "The Wesleyan Female Collegiate Institute" in 1841, and finally chartered as "The Wesleyan Female College" in 1855, held its commencement-exercises on Thursday, June 19, when a class of 6 graduated. Of these, 1, who had completed the classical course, received the degree of A. B., (*Artium Baccalaurea*), the other 5 that of A. L. M., (*Anglicanum Literarum Magistra*).

President Wilson, before the presentation of the diplomas, made a brief address to the audience, urging parents and others interested in the pupils attending this or any school to encourage pupils to steadfastness and promptitude in the performance of their school-duties. He complained that the pupils from the city were allowed by their parents to stay away from school too frequently, to enable them to participate in social pleasures, which, however innocent and desirable, tended to seriously divert the attention of pupils from their studies. He complained likewise of the frequency with which parents at a distance either called their daughters home for visits or permitted them to go, and declared that the effect of these visits was not merely to divert their minds from studies, but to make them less contented after return to school. He said none were more contented and none made more satisfactory progress than those who steadily remained at school. He assured par-

ents that they need not be afraid of their daughters injuring their health by over-study. Study was wholesome rather than otherwise, and if any broke down under it, it was from violations of the laws of health, which would produce evil results anywhere. Turning to the audience he said: "Those abominable boxes you send your daughters, out of which they eat sweetmeats as they go to bed, giving them headaches next day, do them more harm than hard study."

MARYLAND.

ST. JOHN'S COLLEGE, ANNAPOLIS,

Located at the capital of Maryland, this now venerable college has special facilities for securing the kind notice of the legislature, and seems hence to have come into somewhat the position of the State universities of the West and South.

Commencement, last Wednesday in July.

DEGREES.

In course, A. B., 8; A. M., 1. Honorary, D. D.: Professor J. M. Dashiell, of the college—1; LL. D.: Dr. Ninian Pinkney, U. S. N.—1.

BENEFACTIONS.

From the State, \$2,500 for the purchase of chemicals and philosophical apparatus.*

LIBRARY.

Increase for the year about 2,500 volumes, mainly by purchase, the legislature having appropriated, in the preceding year, \$5,000 for this purpose.

NEW BUILDING.

About \$5,000 have been raised by subscription toward the erection of a new hall for commencement-exercises and assemblies, which, it is hoped, will be soon under way.

NEW PROFESSOR.

In place of Professor White, who has retired from the chair of mathematics, Professor Johnson has been appointed.

WESTERN MARYLAND COLLEGE, WESTMINSTER.

The peculiar feature of this college, unusual at the East, is the co-education of the sexes. This is not, however, quite as complete as in

*This account is from an officer of the college. But the report of the State Board of Education indicates, besides, "a regular grant of \$3,000 a year," a "special grant of \$12,000 a year for six years" from 1871, and "an additional appropriation of \$10,000 a year for six years to furnish board, fuel, lights, and washing for two free students in the collegiate course for each senatorial district of the State," such students being required to give bond that they will teach school within the State for not less than two years after leaving college.

some parts of the West. Both sexes have the same instructors, but do not recite together, meeting only in chapel-services and at the meals in the dining-hall, where the professors are also present. The ladies' course is also shorter by a year than that arranged for gentlemen. The results of this system are said to be "eminently satisfactory."

DEGREES IN COURSE.

At the commencement, Thursday, June 19, after the usual class-day and oratoric exercises, the graduating class, composed of five gentlemen and four ladies, received the following degrees in course : A. B., 9.

HONORARY DEGREES.

Ph. D. : Rev. J. W. Reese, one of the professors in the college, now absent on a tour in Europe—1 ; D. D. : names not given—2.

DISTRICT OF COLUMBIA.

COLUMBIAN UNIVERSITY, WASHINGTON.

The Columbian, until recently a college, has received from Congress the charter of a university, and has its Schools of Medicine and Law within the city, the Classical and Theological remaining still upon the northern heights.

The commencement on June 25 attracted a large audience to Lincoln Hall, where the exercises took place. After the customary orations from the graduating class, diplomas were given for the following :

DEGREES IN COURSE.

L. B., 1; Sc. B., 4; A. B., 2; A. M., 1; together with numerous prizes and diplomas for proficiency in special lines of study.

At the commencement of the Medical School, 10 graduates had received the degree of M. D.; and at the Law School, June 11, 44 that of LL. B.

HONORARY DEGREES.

The honorary A. M. was conferred on Mr. W. H. Kable, of West Virginia—1; that of D. D. on the Rev. T. W. Sydnor, of Virginia—1; that of LL. D. on the Rt. Rev. William Pinckney, D. D., assistant bishop of Maryland; John C. Kennedy, esq., of Washington, and the Hon. William A. Richardson, Secretary of the Treasury—3.

CONDITION AND PROSPECTS.

The institution is reported to be in an unusually prosperous condition, its finances much improved, and its prospects for the future brightening. Mr. W. W. Corcoran, of Washington, has pledged it a domain worth at least \$200,000, on condition that \$100,000 more be raised before January 1, 1875, and a fair beginning has been made in the securing of this sum.

NOTABLE WORDS.

President Welling, in his address to the graduates on conferring the degrees, gave them these wise words of counsel :

“ This day you join the public brotherhood of scholars. It has been said that ‘ the priesthood of learning is the only surviving caste of modern times.’ All other nobility survives more in name than in power, and it is certain that if you have purchased to yourselves any good degree in the mysteries of this high-priesthood, you have also assumed the vows of a pre-eminent service in the cause of God and humanity. And it adds to your responsibilities that you are called to take these vows

in a day of intellectual giddiness and revolt, when many run to and fro throughout the land, crying 'Lo! here,' and 'Lo! there,' as they give heed to seducing spirits.

"There are those who will tell you that a special misery has fallen on the men of our times; that faith has grown bankrupt, and that positive science has been left to administer on her estate and take an inventory of her assets; that the old ideals of manhood no longer nurse a brood of heroes; that doubt has stormed in upon the souls of men through every nook and cranny, until the present age, as it stands shivering between the old creeds unrealized and the new creeds unconfirmed, may be likened to another Hamlet, as Shakespeare has drawn him—'Born to duties greater than it can perform, and haunted by thoughts which perplex and overpower it.'

"Let none of these complainings move you. There is no temptation likely to befall you which has not befallen the saints and sages who lived before you. 'Think it not strange concerning the fiery trial which is to try you, as though some strange thing happened unto you,' exclaimed St. Peter, as he stood in the 'imminent deadly breach' of the battle that was opening in his day between Christianity and heathenism. That was a trying time when St. Augustine, as he surveyed the wide wreck of the Roman empire, was called to justify the ways of eternal Providence amid the desolations of returning barbarism in Europe, when all the flowers of culture and art had been laid low under the relentless scythes of the Goth and Vandal. Men's hearts failed them for fear of the things that were to come on the earth when the feudal system perished under the throes and convulsions which preceded the birth of a new social order. And yet in these valleys of Achor a door of hope was opened for all time to the coming generations of men.

"You have so learned the philosophy of history as to draw from it lessons of comfort and not of despair. Every age is called to fight its own life-battle, and you have been clothed with the panoply of the schools that you may enter the combat with weapons of more ethereal mold and celestial temper than ever were wielded by knight or paladin in the days of old romance. You are, indeed, to prove all things, but, in doing so, be sure that you hold fast what is good. The truth which has been weighed in the balances of the sanctuary and not found wanting, is truth for the eternal years. The fine gold on which the blessed and only Potentate has stamped His image and superscription, you may not sell to be melted down and coined anew by any pretender to His throne, whether the pretender come in the name of a new philosophy, falsely so called, or cloak himself in the cast-off garments of the old Gnosticism.

"Think not that in thus warning you against the arrogant sciolism of our times I would have you do dishonor to the genius of the age in which you live. The present time shall seem to you the best time that has ever dawned on the world, if only you can rightly divide its good

from its evil. To despise and revile our age is to commit treason against the Providence who rules our human history, and who appoints to us the bounds of our habitation. But do not for any mess of pottage sell your birthright in that great patrimony of the past ages, into the possession of which, as scholars, as thinkers, and as Christians, you are permitted to enter. Let others, if they will, break down the holy shrines cemented by the blood of martyrs, and rear crumbling altars to some Protean god of modern discovery. Let others, if they will, seal up in their breasts, at the bidding of a low-browed materialism, those springs of thought and feeling which start from 'God, who is our home.' The beautiful in literature shall ever speak to you of the First Fair and First Good which Plato loved, and day by day you will joyfully dip your urns into those perennial fountains which the choice and master spirits of all time have opened along the dusty highways of our daily life. To these fountains, gushing from the souls of poets and philosophers, you have been gently led by the hand of your *alma mater*, and at their inspiring source you shall repair the waste of your withered hearts when ready to faint and fall under the heat of the noontide sun.

"In action be sober and vigilant. To all practical affairs bring that 'wisdom of business' which Bacon has praised, and let it never be true of you, as Göthe has said, that 'thought widens man's wisdom, but lames his gait.' Let your feet be swift in the race and your hands ready to every good work. Lead strenuous lives, not only at the prompting of ambition—that spur which, as Milton tell us, raises the pure spirit 'to scorn delight and live laborious days'—but, like Milton, live and act 'as ever in the great Taskmaster's eye.'"

GEORGETOWN COLLEGE, GEORGETOWN.

Founded in 1789, when its first building was erected, beginning with its classes in 1792, and chartered by Congress as a university in 1815 this institution has acquired a full title to the name thus granted, by adding to its academic department a Medical School in 1851, and a Law School in 1870. But as these both are located in Washington, and the academic halls alone remain in Georgetown, the old name of "Georgetown College" is the familiar title by which it is generally known.

The commencement of the Medical School was held March 6, of the present year, when a class of 24 graduated; that of the Law School June 4, when, after an address from Attorney-General Williams, sketching the growth of law, defining the legitimate duties of the profession, and showing how good lawyers are made, a class of 23 received diplomas. The college proper held its fifty-sixth commencement June 26, 11 academic students finishing their course, and many others receiving prizes for proficiency. The full account of degrees bestowed is as follows:

IN COURSE.

A. B., 11; A. M., 3; Phar. B., (Bachelor of Pharmacy) 1; LL. B., 23; M. D., 24.

HONORARY.

A. M.: Dr. P. J. Murphy, Washington—1; LL. D.: Richard T. Merrick, esq., Washington—1.

NEW DEPARTMENTS.

No new departments have been added since 1870. "At a future day the college may provide an extended commercial course, and another course of science, but it has not been found expedient, or even possible, to inaugurate these departments yet."

NEW PROFESSORS AND PRESIDENT.

Daniel J. Kelly, A. M., has been appointed to the chair of chemistry, and George F. Benkert to that of music. The Rev. P. F. Healy has been appointed to succeed the recently deceased Rev. J. Early, the accomplished and much-loved president of the college.

LIBRARY.

The increase of the library has been 250 volumes, of which 50 were donations.

MUSEUM.

Thirty additional specimens (not characterized) have been added to the museum.

PUBLICATIONS.

None except the annual catalogue, and a paper entitled the *College Journal*, conducted by the students.

STANDARD OF SCHOLARSHIP.

It is claimed by the officers of the college, members of the Society of Jesus, that though the graduates of other colleges, owing to their more advanced age, may have greater finish of literary culture, those of Georgetown, owing to the constant supervision of their studies by instructors, are fully the equals in scholastic attainments of any in America.

 NATIONAL DEAF-MUTE COLLEGE, WASHINGTON.

The annual commencement-exercises of this "Silent College" was held on the bright evening of June 25, in the hall of the institution at Kendall Green. An interesting feature of them, besides addresses in

the sign-language, was the delivery of a salutatory by one student and of a valedictory by another, who, though deaf-mutes, spoke their salutations and farewells in our ordinary oral fashion, showing how much can be accomplished by instruction in this line.

The valedictory was followed by an address from the Hon. John Eaton, Commissioner of Education, who said that though reminded by the presence of the students of the great misfortune of a child not being able to hear or understand a parent's voice, he could congratulate them that, through the good providence of God, they were able now to receive instruction in man's current speech, without waiting to have impediments removed at the day of resurrection. The improvement in the standing of persons of their class was also further matter for congratulation. Time was when a deaf-mute was an outcast, not fit to associate with the human race, while now such were taken to the homes and hearts of men as objects of special care and sympathy. He remembered that when the first institution for their training was established at Hartford, in 1816, it was called an asylum, as if a place of refuge from apprehended violence, whereas now the place where they were gathered bore the honorable name of college, and they themselves were made the objects of the nation's loving liberality and care. Nor was this a charity. It was simply justice; for it is the duty of a State to educate its children, and bestow on them such nurture as their circumstances may require. The idea that it is a charity should be banished from the theory of our civilization, and instead of a feeling of humiliation there might be an honest pride at receiving from the nation that full college-training which no other people bestows on the deaf-mute.

DEGREES.

At the close of the Commissioner's address came the bestowment of degrees, when 3 graduates received that of A. B., in course.

NEW INSTRUCTOR.

Mr. A. G. Draper, A. B., has been appointed tutor in Latin and mathematics.

LIBRARY.

The library has received within the year an accession of 500 volumes.

PUBLICATIONS.

By the college, the annual catalogue.

By Professor Edward A. Fay, of the chair of history and ancient languages, the *American Annals of the Deaf and Dumb*, a quarterly periodical, each number containing 64 or more pages, 8°; \$1.50 per year.

HOWARD UNIVERSITY, WASHINGTON.

At the commencement, June 11, the degree of A. B. was conferred on 2 candidates, and that of M. D. on 1.

In the medical department several changes have occurred. Dr. Tilden has resigned his professorship to become chemist to the Erie Railroad Company; Dr. Johnson is succeeded as secretary of the faculty by Professor Purvis; Professor Reyburn by Dr. N. F. Graham; Professor Strong by Dr. J. B. G. Baxter; and Dr. Cheney, as demonstrator of anatomy, by Dr. Wm. A. Seaman, of the last graduating class.

VIRGINIA.

UNIVERSITY OF VIRGINIA, NEAR CHARLOTTESVILLE.

This crown of the educational system of the State, of which Virginians are justly proud, shone out with wonted brightness on its forty-ninth "public day," Thursday, July 3. Distinguished visitors from various quarters graced the occasion, ladies in numbers lighting the old halls with brilliant colors and gay smiles. This, too, without the attraction of the oratoric exhibitions customary at most colleges, for here the exercises, according to the programme, consisted simply of an opening prayer, of the delivery of "certificates of proficiency" for satisfactory attainments in certain lines of study, of the giving of diplomas to the graduates in certain schools, (as the school of Latin, Greek, German, history, or mathematics,) and of the conferring of the usually recognized degrees, occasional strains of music being apparently the only variation.

DEGREES.

The degrees in course—no honorary ones being here conferred—were: C. E., 3; C. & M. E., 3; Sc. B., 2; LL. B., 18; M. D., 14; A. B., 1; A. M., 3. If this proportion of 40 professional and scientific to 4 classical and literary degrees seem to indicate a falling-off in old-time devotion to the classics and to literature, a glance at the list of graduates in special schools may reverse the judgment in respect to this, 114 literates appearing here against 54 scientific graduates, which is nearly the proportion of Yale and Harvard.

NEW PROFESSOR.

In place of Dr. William H. McGuffey, deceased, Noah K. Davis, LL. D., has been elected to the chair of mental and moral philosophy and political economy.

BENEFACTIONS.

One new scholarship of \$7,000, one of \$3,400, and ten of \$2,000 each, have been founded during the year past. The names of founders not given.

LIBRARY.

The library, originally selected and arranged by Mr. Jefferson, and since enlarged by purchases and donations to 35,000 volumes, has been

further increased during the year by an aggregate of 531 volumes and 216 pamphlets and periodicals—529 volumes and 55 pamphlets being gifts.

PUBLICATIONS.

Catalogue of the university for the session of 1872-'73; circulars of the law, medical, agricultural, and other schools; circulars of the executive committee of the society of alumni; programme of commencement-exercises, 30th of June to 3d of July, 1873; notice of the university-organization and instruction from the report of the State-superintendent of education.

RESOURCES.

Fixed capital in lands, buildings, library, and apparatus....	\$600, 000
Moneysed donations, besides others of considerable value....	160, 000
Annual appropriation from the State.....	<u>15, 000</u>

EXTENSION OF PRIVILEGES IN AGRICULTURAL SCHOOL.

The University proposes to throw open forty farmers' scholarships in the agricultural department, in addition to the fifty now existing by State-law. These will be tenable for two years, and will afford free tuition in natural history and agriculture, in general, industrial, and agricultural chemistry, in natural philosophy, in mineralogy and geology, in mathematics, history, and English literature. They will be given only to such students as may declare their intention to practice agriculture as a profession, and present evidence of their being at least seventeen years of age, of irreproachable moral character, and of capacity to profit by the instruction to be received at the university.

NOTABLE WORDS.

On the afternoon of commencement-day Governor Swann, of Maryland, delivered the address before the society of the alumni. It was, in a measure, a review of the American Republic, its rapid growth and prosperity, and its form of government. He concluded as follows:

"We have reason for congratulation, my friends, that the same flag, representing the same glorious Union, as it came from the hands of our fathers, floats over us again to-day. It is the proud heritage of all the States, won in a common struggle, and endeared to us by common sacrifices. Virginia, more than any other, shares its renown. May it go forth once more, with every star in its place, among all nations and all people, blazing with renewed splendor, to proclaim to the world the advancing march of freedom as developed by the glories of the new era,

and to stand forever, in the accomplishment of its great destiny, as the beacon-light to inspire hope and confidence in the down-trodden and oppressed of every land, bearing the glad tidings of peace, good-will, and universal equality to the remotest nations of Christendom."

WASHINGTON AND LEE UNIVERSITY, LEXINGTON.

Thirty-one students graduated at this now favorite institution at its last annual commencement, occurring on Thursday, June 26.

DEGREES IN COURSE.

A. B., 8; L. B., 10; A. M., 5; Ph. B., 3; C. E., 4; and M. E., 1.

HONORARY DEGREES.

D. D.: Rev. Joseph Cottrell, Mississippi; Rev. H. Herbert Harris, Virginia; Rev. S. R. Houston, West Virginia; Rev. John Percival, Louisiana; and Rev. John W. Pratt, Virginia—5; LL D.: Hon. Judah P. Benjamin, London, England; and Hon. John A. Campbell, Louisiana—2.

NEW DEPARTMENT.

A course in agriculture has been added during the past year.

NEW PROFESSOR.

One has been appointed to the chair of applied mathematics; name not given.

BENEFACTIONS.

From W. W. Corcoran, esq., of Washington, D. C., \$20,000 in bonds; from Henry Young, esq., New York, \$1,500, the annual proceeds to pay the tuition-fees of the most successful student in moral philosophy.

LIBRARY.

Increased by gift of 293 volumes; among others a valuable collection of works on engineering, from Moncure Robinson, esq., of Philadelphia; also the fine private library of the late N. P. Howard, esq., of Richmond, Virginia, through the munificence of W. W. Corcoran, esq., of Washington.

PUBLICATIONS.

By the institution, the annual catalogue, circular of law department, and sundry commencement programmes.

COLLEGE OF WILLIAM AND MARY, WILLIAMSBURG.

This oldest of American colleges, save one, is gradually rising out of the depressions brought on it by the war. Its buildings burned, its library much injured, its faculty dispersed, and the neighborhood from which it largely drew its students wasted and impoverished by the Peninsula campaign, it might have been excused for losing heart and hope. Its friends, however, have given liberally to resuscitate it; its faculty have worked bravely on through their discouragements; new buildings have arisen from the ashes of its fires; the blanks in its chemical and philosophical apparatus have been filled; its library, which, after all its losses, still numbers nearly 5,000 volumes, has been enriched with a fine collection of the classics; and hope is entertained that, through the generosity of Congress, reparation for the losses suffered from our troops may be obtained.

At its commencement, July 4, a considerable number of distinguished visitors were present.

DEGREES IN COURSE.

These comprised only 1 A. B., and 2 A. M.

HONORARY.

The honoraries *merita causâ* were—D. D.: Rev. William G. Far-
rington, New Jersey; Rev. James H. Ticknor, Alabama; Rev. C. H. W.
Stocking, Chicago, Illinois; Rev. Robert Nelson, Shanghai, China—4;
S. T. D: Rt. Rev. Henry C. Lay, bishop of Eastern Maryland—1;
LL. D: Rt. Rev. F. M. Whittle, assistant bishop of Virginia—1.

NEW SCHOLARSHIP.

One new scholarship has been founded since the last commencement.
Founder, Rev. R. J. Graves, D. D., Sharon, Pa. Amount, \$1,000.

LIBRARY.

The increase of the library for the year has been 600 volumes and
pamphlets, of which 260 volumes and 315 pamphlets were donations.

NOTABLE WORDS.

Kind words toward Northern men, and friendly ones respecting the
great central Government, appear to have been the order of the day at
the Virginia commencements of the present year. William and Mary
formed no exception to the rule, the president, in his address on gradu-
ation-day, speaking in terms of high laudation of Mr. Hoar, of Massa-
chusetts, and other northern Congressmen, who, voting and speaking

for compensation to the college for injuries sustained from our troops during the war, had not only manifested their high sense of justice but done what in them lay to soothe the irritations growing out of the great strife, and bind again in loving union the lately alienated sections of our land.

STATE AGRICULTURAL AND MECHANICAL COLLEGE,
BLACKSBURG.

The exercises of the first annual commencement of this institution began on Tuesday, July 8, but no class was yet prepared for graduation. On Wednesday Governor Gilbert C. Walker addressed the literary societies on the subject of "practical education," stating in the course of his remarks that Virginia has so advantageously disposed of her land received under the congressional grant for the benefit of agriculture and the mechanic arts, as to nearly double the principal of the fund, increasing the annual income to \$30,000. Two-thirds of this income is set apart for the maintenance of this college, and one-third to the Hampton Normal and Agricultural Institute.

ROANOKE COLLEGE, SALEM.

Commencement occurred on Wednesday, June 18, when a class of twenty graduated.

DEGREES.

In course, A. B., 11; A. M., 9. Honorary, D. D. : Rev. A. J. Brown, of Blountsville, Tennessee—1.

NEW DEPARTMENT.

A normal department has been added.

PROFESSOR APPOINTED.

To the chair of modern and oriental languages, Professor T. C. Brittle, of Parsons Seminary, Texas; also to the chair of physiology and hygiene, Dr. J. J. Moorman.

NEW PROFESSORSHIP.

A professorship of modern and Oriental languages has been created; no endowment.

BENEFACCTIONS.

From Colonel Henry Culler, Frederick City, Maryland, \$500.

LIBRARY.

Increase by receipt of 500 volumes, 300 being gifts in books ; also 100 pamphlets.

MUSEUM.

Received by gift, 100 specimens.

PUBLICATIONS.

By Dr. J. J. Moorman, *Mineral Springs of North America*, 395 pp. ; price per copy, \$2. By the college, the annual catalogue and several commencement-programmes.

 RICHMOND COLLEGE, RICHMOND.

No further information relative to the recent commencement of this college has been received than simply as to the degrees conferred.

DEGREES.

In course, L. B., 8 ; A. M., 3. Honorary, LL. D. : James Alfred Jones, of Richmond—1.

NEW DEPARTMENT.

A department of physics and astronomy has been added.

BENEFACTIONS.

From friends, mostly in Virginia, \$24,000.

BUILDING.

A new building, intended principally for chapel and lecture-room, has been erected at a cost of about \$35,000.

 HAMPDEN SIDNEY COLLEGE, HAMPDEN SIDNEY.

The commencement of this Southern Virginia college occurred on Wednesday, June 12.

DEGREES.

In course, A. B., 7. Honorary, A. M. : Professor Addison Hoge, of Hampden Sidney College, and Thomas Stamps, of Lancaster, South Carolina—2.

No further information.

WEST VIRGINIA.

WEST VIRGINIA UNIVERSITY, MORGANTOWN.

This institution, organized about five years ago, under the congressional land-grant, was called at the beginning, in common with other institutions of the same class, an agricultural college; but having been adopted and further endowed by the State, its name was changed as above.

The proceeds of the sale of congressional lands belonging to this university were \$50,000; the citizens of Morgantown contributed, in grounds and buildings, \$50,000 more; and the State increased the endowment to about \$110,000, with annual appropriations for current and contingent expenses, also making provision for such future buildings as the growth of the institution may from time to time demand.

Commencement-day was Thursday, June 19, when a class of thirteen graduated.

DEGREES IN COURSE.

A. B., 7; A. M., 1; Sc. B., 6.

PROPOSED ADDITION.

It is contemplated to add, during the coming year, two new departments, one of medicine and one of law.

BENEFACTIONS.

From General G. W. Brown, of Grafton, West Virginia, \$100.

LIBRARY

Increased by receipt of 300 volumes, of which 60 volumes were by gift.

MUSEUM.

Gifts received of 120 specimens.

NEW BUILDING.

One has been erected during the year for an armory, costing \$5,000. A new hall is to be built by the State during the coming year at a cost of about \$50,000.

PUBLICATIONS.

The annual catalogue and report of regents to the governor.

NORTH CAROLINA.

TRINITY COLLEGE, TRINITY COLLEGE P. O.

Commencement occurred on Thursday, June 12.

DEGREES.

In course, A. B., 9; A. M., 6. Honorary, A. M., 4; D. D.: Rev. W. H. Fleming, of South Carolina—1.

PROPOSED ADDITIONS.

It is contemplated to erect a large new chapel, to add new rooms for the department of natural science, also a new professor of law, and an assistant professor of natural science.

BENEFACTIONS.

About \$2,000.

LIBRARY

Increased by receipt of 1,000 volumes, 200 being gifts in books.

NEW BUILDINGS

In process of erection, to be completed during the year.

PUBLICATIONS.

By the college, the annual catalogue and commencement-programmes.

WAKE FOREST COLLEGE, FORESTVILLE.

Founded in 1832 by the Baptist State Convention of North Carolina, and opened in 1834 as a manual-labor college, under the presidency of Elder Samuel Wait, this institution has since that time matriculated more than 1,500 young men, of whom at least 200 have become licentiate ministers.

A class of six graduated at the last annual commencement, which occurred on Thursday, June 24.

DEGREES.

In course, Ph. B., 3; A. B., 3. Honorary, none.

ENDOWMENT.

In 1860 the college held an invested endowment of \$50,000, nearly all of which was lost in the general wreck of the war. About \$15,000 have since been secured as the nucleus of a new endowment, and efforts are being made, with a prospect of success, toward increasing it to a fund of \$100,000 during the coming year.

DAVIDSON COLLEGE, DAVIDSON VILLAGE.

No official report from this college has been received, and no information relative to the recent commencement has come to hand from any source. A newspaper report gives the following in respect to the finances of the college :

“The real estate of Davidson College is valued at \$150,000, the available fund at \$85,000. The annual receipts pay all expenses and leave a surplus.”

UNIVERSITY OF NORTH CAROLINA, CHAPEL HILL.

This university, at its late commencement, conferred the honorary degree of LL. D. on Dr. E. S. Gaillard, editor of the Richmond and Louisville Medical Journal—1.

No further returns.

SOUTH CAROLINA.

UNIVERSITY OF SOUTH CAROLINA, COLUMBIA.

Founded as a college 1801-1806, and enlarged into a university 1865.

No returns of the degrees conferred at the summer-commencement of this university have been received, but information comes that its trustees, desiring to meet more fully the wants of the people, have resolved to open the fall-session with the following departments, some apparently in place of, some additional to, the ten schools that have previously existed:

1. A preparatory school, which, while under the care of a principal, will have its classes sent to the lecture-rooms of various professors for instruction. The object of this school will be to fit students either for ordinary business or for the higher departments of the university. *No charge will be made for tuition here.*

2. A college of literature and arts, giving the four years' course of instruction in English literature, mathematics, natural, mental, and moral science, ancient and modern languages, which forms the usual preparation for the degree of A. B.

3. A two years' course of instruction in the above studies, without the languages, intended to fit young men for the department of law or medicine, or for active business.

4. The Law School, as before, but improved by the aid of professors from the other schools, who will give instruction in elocution, rhetoric, logic, history, political philosophy, and political economy.

5. The Medical College, also improved by the aid of the professors from the literary schools, enabling students to remedy any defects in their previous education.

The various professors have generally agreed to relinquish their fees for lectures and tuition, and it is hoped that the legislature, at its next session, will abolish fees entirely and open the university to all the citizens without charge for instruction.

COLLEGE OF CHARLESTON, CHARLESTON.

Monday, March 24, was commencement-day.

DEGREES.

In course, A. B., 5; A. M., 3. Honorary, none.

ADDRESS OF THE PRESIDENT.

President Middleton, in his address to the graduating class, among other wise and seasonable words enforcing the duty of an unselfish devotion to principle and right, said :

"One undoubted advantage has attended the frightful disorders of the past few years. We have been enabled thereby to point you to the practical results of selfish greed, and to draw from them such comments upon life and duty as have furnished us with illustrations far more powerful than any which the most eloquent abstractions could supply. You will know now that patriotism means something more than party, that the true worker is the silent worker, and that he is best fitted for office who thinks most of its weight, and least of its honors and emoluments. * * * * The most successful results of self-seeking are not worth what they cost, and the honor which comes undesired and unsought is the only honor which will survive the siftings of the social encounter. Be concerned about nothing but duty, be content with nothing but truth, and thus you will become fellow-workers with all the wise and the good who have gone before you, and with Him who made them what they were."

CHANGE OF PROFESSOR.

Professor John McCrady, A. M., curator of the museum, has received and accepted an appointment under Professor Agassiz, in Harvard University.

PUBLICATION.

By Henry M. Burns, LL. D., professor of the Latin and Greek language and literature, a *Latin grammar*.

 WOFFORD COLLEGE, SPARTANBURG.

An unusually prosperous year for Wofford College ended with the commencement-exercises, which extended from the 22d to the 25th of June.

The annual sermon to the graduating class was delivered by Rev Professor Whitefoord Smith, D. D., on Sunday, the 22d.

Professor William K. Blake, of Spartanburg, delivered the address before the societies, Tuesday morning, on "The responsibilities of cultivated intellect," and in the afternoon of the same day Thomas S. Moorman, esq., of Newberry, addressed the Alumni-Association on "Principle *versus* policy."

On commencement-day, after the usual exercises, Rev. Dr. Shipp,

president of the college, conferred the degrees upon the graduating class of 15.

DEGREES.

In course, A. B., 14; Sc. B., 1; A. M., 3. Honorary, none.

NEWBERRY COLLEGE, WALHALLA.

No information relative to the recent commencement of this college has been received, save an official report of the degrees conferred, which is as follows :

DEGREES.

In course, A. B., 1; A. M., 4. Honorary, none.

GEORGIA.

STATE UNIVERSITY OF GEORGIA, ATHENS.

Among the oldest of our higher educational institutions, this university is now in its seventy-second year. At its commencement, held August 6th, the degrees conferred, in course and honorary, were as follows:

IN COURSE.

A. B., 15; A. M., 1; Sc. B., 1; C. E., 3; C. & M. E., 3; LL. B., 10. The degree of A. M. here, as in the University of Virginia, is not conferred on any college A. B. that may present evidence of having pursued some studies, literary or professional, for three years after graduation, but is the highest honor awarded a graduating student. It is bestowed only on those students of the university who obtain "certificates of proficiency" in each of the eight academic schools, Latin, Greek, modern languages, belles-lettres, metaphysics and ethics, pure mathematics, natural philosophy and astronomy, chemistry and geology.

HONORARY.

D. D.: Rev. E. A. Battle—1; LL. D.: Rev. John D. Waddell—1.

NEW DEPARTMENTS, SCHOOLS, ETC.

There have been added during the year a department of mining engineering, a school of analytical chemistry and agriculture, and a post-graduate course for civil engineers. It is also contemplated to add a school of natural history.

NEW PROFESSORS.

Professor H. C. White has been appointed to the chair of general and applied chemistry, and Professor E. M. Pendleton to that of agriculture and horticulture. The chancellor, Rev. A. A. Lipscomb, D.D., is said to have resigned his place.

BENEFACTIONS.

From the town of Athens, \$25,000 to build a laboratory; and from private friends, \$3,000 for apparatus with which to furnish it.

SCHOLARSHIPS.

Through the appropriation of the congressional land-scrip fund to

the university, and the making the State College of Agriculture a department of the same, 220 scholarships are given to the State; and the students to fill these are appointed from the different counties, receiving their tuition free. Young men who design to enter the ministry are also instructed gratuitously, when it is required.

LIBRARY.

The library of the university, now containing about 13,000 volumes, carefully selected, has been increased during the year by the gift of 75 books and 25 pamphlets.

MUSEUM.

The museum, which is under the care of the professor of geology, has this year received no accessions to its stores.

PUBLICATIONS.

The only ones for the year have been the annual catalogue and full schedules of the certificates of degrees at commencement, with sketch of the *Present Organization and Proposed Plan of Expansion of the University of Georgia*.

EMORY COLLEGE, OXFORD.

A class of 24 graduated at the last commencement, occurring on Wednesday, July 24.

DEGREES.

In course, A. B., 24; A. M., 6. Honorary, A. M.: W. H. Allen and J. W. F. Lowry, of Dawson, Georgia, and Robert Gwynn and J. F. McClellan, of Conyers, Georgia—4; D. D.: Rev. J. C. Wills, of Centra College, Fayette, Missouri, Rev. S. K. Hargrooves, of Tennessee, and Rev. L. S. Burkhead, of North Carolina—3.

NEW BUILDINGS

Erected for the purpose of lecture-rooms, at a cost of \$8,000. Others are in process of erection for chapel and lecture-rooms, to cost \$32,000

OGLETHORPE UNIVERSITY, ATLANTA.

Suspended for want of funds.

BOWDON COLLEGE, BOWDON.

Wednesday, July 9, was commencement-day.

DEGREES.

In course, A. B., 2; A. M., 2. Honorary, A. M., 2; LL. D.: A. H. Stephens, of Georgia—1.

ADDRESS OF THE PRESIDENT.

The president's address to the class was begun by a pleasant allusion to that "chronic affliction of institutions of learning called the baccalaureate-address, which, he said, gives the president the opportunity of making a private love-talk to his students in the presence of a large audience," thus affording him the pleasure of eulogizing the splendid success, the uniform good conduct, and the very pleasant associations of his graduates.

The president, in the present case, however, waived this portion of the privileges of the occasion, and proceeded to offer words of counsel to the graduates as to their future, in which the duties of life, grouped under three general heads, were briefly considered, and a life of unselfish devotion to duty urged upon them. He said:

"Be assured that the baccalaureate-crown which we bestow is no insignium of office. We repudiate that low and selfish motive to pursue an education, too often urged upon the young, that it secures to them the prospect of the emoluments and honors of office. Whatever laurels you may have won upon the rostrum, cast down at the feet of your country, and ask for the working tools of a private citizen."

NEW PROFESSOR APPOINTED.

One to the chair of natural sciences, not named.

MUSEUM.

The additions of specimens during the past year are reported as too numerous for special mention.

PUBLICATIONS.

By the president, Rev. F. H. M. Henderson, A. B., a series of lectures to the students on *The Course of Spiritual Blindness*, published in the Methodist Protestant, Baltimore.

ALABAMA.

UNIVERSITY OF ALABAMA, TUSCALOOSA.

Wednesday, June 25, was commencement-day at this institution.

During the session just closed there have been 135 matriculates in the different departments of the university.

DEGREES.

In course, A. B., 2; A. M., 1; Ph. B., 2. Honorary, none.

DEPARTMENT.

A law department has been added, and a professor appointed to fill the professorship thus created.

LIBRARY

Increased by about 1,000 volumes, 500 of which were gifts.

PUBLICATIONS.

The annual college catalogue and commencement programmes.

SOUTHERN UNIVERSITY, GREENSBOROUGH.

The graduating exercises took place on Wednesday, July 2.

DEGREES.

In course, A. M., 2; A. B., 4; Ph. B., 1; M. D., 1.

HOWARD COLLEGE, MARION.

The commencement-exercises of this college took place from the 9th to the 13th of June inclusive.

DEGREES.

In course, A. B., 2; Sc. B., 4.

NEW DEPARTMENTS.

Two have been added, namely, a department of civil engineering and one of commerce.

LIBRARY.

Important improvements have been made during the year.

MUSEUM.

The collection of minerals is reported to be large, and the cabinet in good order.

NEW BUILDING.

A building intended for a dining-hall has been erected, at a cost of \$2,000.

PUBLICATIONS.

By the college, the annual catalogue; a manual of *Regulations for Howard College*, and a circular embracing *Distinguishing features of Howard College*.

DISCIPLINE OF THE COLLEGE.

A prominent feature of this college, to which special attention is drawn by the president, Professor J. T. Murfee, as having been promotive of remarkably good results, is the application of the military system of discipline. While the institution is strictly civil, and there is no drill or other military exercise, the police organization for the promotion of order and attention to duty is similar to that of West Point. "If all the civil colleges of the country," says President Murfee, "were organized on this plan, the improvement would be wonderful."

AGRICULTURAL AND MECHANICAL COLLEGE, AUBURN.

No information relating to the recent commencement of this institution has been received.

Established by the State from her share in the congressional land grant for the benefit of the industrial arts, in addition to the \$216,000 realized from that source, this college received from the East Alabama College, of Auburn, the property and lands of that institution, to the value of \$100,000, on condition that the college should be located there.

With this beginning, including all the students of the former college who were prepared to enter, the Agricultural and Mechanical College, although established as recently as March, 1872, graduated its first class of six students at the close of the first term, in October of the same year.

MISSISSIPPI.

UNIVERSITY OF MISSISSIPPI; OXFORD C. H.

Another of the great State institutions which are fast rising in the West and South, through the aid and patronage of legislatures, to supplement the school-systems of the States, and afford their youthful citizens an opportunity for liberal education free of charge. In this, as in most of the others, besides the course for bachelor of arts, of science, and of philosophy, there is a course of civil engineering, one of agriculture and the mechanic arts, and one of law. The institution having lived through a quarter of a century, the Wednesday preceding commencement, June 25, was devoted to historic reminiscences by Chancellor Waddell, who has been connected with it from the first.

Thursday, the 26th, was commencement-day, when visitors from all portions of the State and even from adjoining States filled the capacious chapel, to listen to the speeches of the graduating class and witness the presentation of diplomas to its members.

DEGREES CONFERRED.

A. B., 13; A. M., 2; Sc. B., 1; LL. B., 9. With reference to the graduates who received the degree of A. M., it should be understood that here, as in some other universities, this degree is not now in any case conferred in course, but as the result of a full year's study after graduating as A. B., and after satisfactory examination in a post-graduate course embracing at least three of the university-departments of study, together with a thesis on some point connected with the course. This makes the distinction one of higher worth and better meaning than an ordinary A. M.

LIBRARY, MUSEUM, ETC.

The library is spoken of in general terms as "extensive," containing many thousands of volumes; the reading-room as having 42 daily and weekly journals, and 30 reviews and magazines; the apparatus of the philosophical and chemical department as "magnificent and unsurpassed;" and the museum as enriched with excellent cabinets of minerals, shells, and herbal preparations, besides the great collections of the geological survey of the State—the aim being to make the institution so perfect in all its advantages and appointments, that it shall not be necessary for Mississippians to leave their own State to obtain a literary, scientific, practical, or professional education, but find all they desire in their own State University.

CHANGES.

Professor Hilgard has resigned the chair of chemistry, to accept an appointment in the State University of Michigan; and Professor Shields, that of adjunct in English literature, to enter on the practice of the law.

PASS CHRISTIAN COLLEGE, PASS CHRISTIAN.

The fourth commencement of this college occurred from the 24th to the 27th of June.

DEGREES.

In course, A. B., 2. Honorary, A. M.: Mr. J. R. Knapp, of New Orleans—1; LL.D., Professor D. K. Whittaker—1.

DIPLOMAS.

Commercial diplomas were awarded to 4 graduates of the commercial school.

LOUISIANA.

LOUISIANA STATE UNIVERSITY, BATON ROUGE.

Wednesday, June 25, was commencement-day at this university, and witnessed the graduation of a class of eight.

DEGREES.

In course, A. B., 1; A. M., 1; Sc. B., 3. Honorary, none.

LIBRARY.

About 11,000 carefully selected volumes. No note of recent increase.

MUSEUM.

Extensive cabinets of geological, mineralogical, conchological, botanical, zoölogical, and archæological specimens form the treasures here, and in the herbarium are samples of a large part of the flowers of Louisiana.

PROGRESS AND CONDITION.

This university, being directly in the track of large military movements, suffered much during the war, its buildings being burned, its resources crippled, and its professors and students scattered. Instruction was not resumed till 1869, since which time it has, except financially, been prosperous, and is said to offer now to students facilities for learning equal to those of any institution in the South.

STRAIGHT UNIVERSITY, NEW ORLEANS.

Incorporated June 25, 1869, and receiving students without regard to race, sex, or religious denomination, this institution has become substantially, as is pretty sure to be the case at the South with such provisions, a university for the colored population. Appreciating its privileges, they have taken it heartily in hand, filled it with students, and graduated a respectable class this year.

The commencement-exercises took place on the evening of June 11, under the direction of President S. S. Ashley, when, after a series of essays, orations, and theses by the graduates, which are spoken of in highly commendatory terms, there were conferred the following

DEGREES.

In course, Sc. Magistræ, 2; Med. Bac., 1; Phar. M., 1. Honorary, A. M.: Louis A. Bell, an LL. B. of Harvard—1; Ph. D.: James T. Newman, M. D., of New Orleans—1.

DEPARTMENTS.

These have been the preparatory, collegiate, normal, theological, legal, and medical. To them has been added during the year another—agricultural.

NEW PROFESSORS.

In the medical department the following gentlemen have been appointed: J. T. Newman, M. D., Ph. D., Professor of Obstetrics; Warren Stone, M. D., Professor of Civil and Military Surgery; Arthur Waggoner, M. D., Professor of Therapeutics and Materia Medica; James A. Martling, A. M., Professor of Anatomy.

BENEFACTIONS.

Aid for the university—amount not indicated—has been received from the American Missionary Association, New York.

LIBRARY.

A general library of 1,500 volumes, accessible to the students, has been increased during the year by gifts of 1,000 books and 200 pamphlets.

MUSEUM.

This has received gifts of 20 mineral and 4 vegetable specimens.

PUBLICATIONS.

College-circular and programme of commencement-exercises.

T E N N E S S E E .

UNIVERSITY OF THE SOUTH, SEWANEE.

First planned in 1856, by Bishop Polk, of Louisiana, as a means of affording to the further Southern States the opportunity for thorough literary cultivation in connection with the religious influences of his Church, this university had, before the war, at least as fair prospects of successful operation as any newly founded seat of learning in our country. The bishops and clergy of the States for which it was designed all heartily approved the founder's plans; the laity came generously forward with what then were held to be immense subscriptions; the legislature of Tennessee gave it, most willingly, an ample charter; a domain on the Sewanee Mountain, embracing nine full miles in length and two in breadth, magnificent in beauty and salubrious in the extreme, was selected for its site; and everything appeared to promise both a grand endowment and a noble educational success, when the clouds of war arose. As these dispersed, little remained to the university but its domain. The wealthy southerners that had subscribed for its endowment were impoverished, and the paid-up funds had vanished, like almost everything else, in the great war. But generous and sympathetic offerings from abroad enabled the trustees to put the educational work in operation on a moderate scale in 1868, since which time its development has been rapid, its corps of professors and instructors now numbering 13, its students more than 200, its schools 7, with a library of 5,000 volumes, and buildings sufficient for all actually existent needs.

SCHOOLS.

After the plan of most southern universities, separate schools are established for each department of learning, one of civil engineering, one of mathematics, one of modern and one of ancient languages, one of metaphysics and literature, one of theoretical and experimental chemistry, and one of moral science and Christian evidences. The number of these schools is to be increased as fast as the resources of the university allow it, so as to embrace all branches of knowledge usually taught in such an institution. Students elect such schools as best meet the ends they have in view, not less than three in any case, and at the close of the scholastic year receive a diploma of graduation from such in the studies of which they can sustain a satisfactory examination.

MILITARY DRILL.

To promote discipline and physical development, the military drill is made a part of the course of instruction.

COMMENCEMENT.

At the commencement, July 17, after an address from the Rt. Rev. J. P. B. Wilmer, of Louisiana, diplomas in the schools of mathematics, Latin, metaphysics, chemistry, English literature, and moral science were delivered by the chancellor, the Rt. Rev. W. M. Green, of Mississippi, to 30 graduates of those schools.

HONORARY DEGREES.

The degree of D. C. L. was conferred on the following learned Englishmen: Rev. Wm. Knyvett Leighton, D. D., warden of All-Souls College, Oxford; I. Archibald Shaw Stewart, A. M., of Christ Church College, Oxford; and Edgar Shepherd, M. D., professor of psychology in King's College, London—3.

LIBRARY.

The library has been increased by 648 volumes from July, 1872, to July, 1873.

PUBLICATIONS.

Annual Calendar; The University of the South, 3,000 copies; *The University Record*, monthly; *Proceedings of the Board of Trustees* for 1872, 1,000 copies.

VANDERBILT UNIVERSITY, NASHVILLE.

Ground was broken for the Vanderbilt University at Nashville, Tennessee, on September 16. Bishop McTyeire, of the Southern Methodist Episcopal Church, began the proceedings by reading the 127th Psalm, beginning, "Except the Lord build the house, they labor in vain that build it," and then removed the first earth. The site is a very commanding one, just without the city. Commodore Vanderbilt has contributed \$500,000 to the erection and endowment of the university.

CUMBERLAND UNIVERSITY, LEBANON.

The commencement of this university occurred on Thursday, June 5.

DEGREES.

In course, A. B., 15; A. M., 5; Sc. B., 1; C. E., 1; M. D., 12; LL. B., 46; D. B., 4. Honorary, D. D.: Revs. S. M. Merrill, J. C. Provine of Nashville, Tennessee, and J. W. Poindexter, of Owensborough, Kentucky—3.

NEW DEPARTMENT.

The commercial department has been re-organized on an entirely new plan, and a telegraphic college has been added, to continue open every day in the year, except Sundays.

NEW PROFESSORS.

Professors Thomas Toney and R. H. Anthony have been appointed to chairs in the business-college. President McDonald having announced to the board that, owing to his feeble health, he must hereafter have lighter work, has been unanimously requested to continue in his old chair of professor of belles-lettres and mental and moral science. It is hoped that he will at least be able to perform the duties of this chair. Should he not, however, perfect and certain arrangements have been made by which his chair will be filled every day. Judge Green will continue, as heretofore, in his chair of professor of law. In addition to this, the trustees have created him chancellor of the university, and clothed him with all the powers of president.

PUBLICATIONS.

By the university, the *Educational Reformer*, the annual catalogue, and business-college circular.

KING COLLEGE, BRISTOL.

At the commencement, June 11, a class of 14 graduated from this college, each receiving the degree of A. B.

NEW PROFESSORSHIP.

Besides one professorship previously endowed, (amount \$25,000,) another is "in course of endowment."

LEGACY.

From the estate of Mr. Leech, (full name not given,) \$500 has been received during the year.

LIBRARY.

Increase of library for the year, about 100 volumes.

NEW BUILDING.

One, costing \$3,000; purpose not designated.

PUBLICATION.

Fourth annual catalogue for the year ending June 11, 1873.

MARYVILLE COLLEGE, MARYVILLE.

Commencement occurred on Thursday, May 29.

DEGREES.

In course, A. B., 7. Honorary, none.

BENEFACTIONS.

Donations were received, amounting to \$4,500, as follows: From the estate of John P. Baldwin, of New Jersey, \$2,500; from Wm. Thaw, of Pittsburg, and Hon. Wm. E. Dodge, of New York, \$1,000 each; the two latter donations being received regularly every year from the gentlemen named.

LIBRARY.

Gifts of congressional works, received from Senator Brownlow and Hon. Horace Maynard.

PUBLICATION.

By the college, the annual catalogue for 1872-'73.

EAST TENNESSEE UNIVERSITY, KNOXVILLE.

Tuesday, June 24, was commencement-day.

DEGREES.

In course, A. B., 4; Sc. B., 2. Honorary, none.

LIBRARY.

Increased by receipt of 200 volumes.

NEW BUILDING.

One has been erected during the past year, costing \$10,500.

PUBLICATIONS.

By the institution: *Report of Trustees of East Tennessee University and State Agricultural College to the State Legislature*, January, 1873; also the annual catalogue of the university for 1872-'73.

GREENVILLE AND TUSCULUM COLLEGE, GREENVILLE.

No information has been received respecting the recent commencement of this college, further than the official report of degrees conferred.

DEGREES.

In course A. B., 2; A. M., 3. Honorary, LL. D., 2, names not furnished.

PROFESSOR APPOINTED.

To the chair of physiology and hygiene, M. T. Doak, M. D.

NEW PROFESSORSHIP.

One has been created within the year past.

SCHOLARSHIP-FUND.

This amounts to \$20,000.

PUBLICATIONS.

By Rev. David Wills, D. D., *Memorial discourse at the erection of a monument to the memory of Rev. Samuel W. Doak, D. D., founder of Tusculum College.*

By the college, the fifth annual catalogue.

CENTRAL TENNESSEE COLLEGE, NASHVILLE.

This institution has as yet graduated no class, being still, as its president remarks, in its "babyhood."

Its course of instruction is theological, normal, and academic and preparatory, its object being to multiply the number of preachers and teachers among the colored people of the South.

BENEFACTIONS.

Received from Rev. A. Meharry, \$35.

LIBRARY.

This contains about 500 volumes. It has been increased during the year, by gift, to the extent of 44 volumes and 6 pamphlets.

PUBLICATION.

By the college, the annual catalogue.

UNION UNIVERSITY, MURFREESBOROUGH.

Commencement-day was Wednesday, June 11.

DEGREES.

In course A. B., 2; A. M., 4. Honorary, A. M., 1, Professor J. H. Hamilton.

PROFESSOR APPOINTED.

To the chair of English and modern languages, Professor E. W. Halbach.

BENEFACTIONS.

Bonds to the amount of \$13,000 obtained as the beginning of an endowment.

LIBRARY.

Increased by gift of 50 volumes from Hon. Corn. Bosson, of Murfreesborough, Tennessee.

PUBLICATIONS.

By the two literary societies of the college, two monthly periodicals, *The Calliopean* and *The Quiver*.

KENTUCKY.

KENTUCKY UNIVERSITY, LEXINGTON.

The fourteenth annual commencement occurred on Wednesday, June 11, the graduates of the several colleges numbering 44.

DEGREES.

In course A. B., 4; A. M., 1; LL. B., 15. No honoraries.

NEW DEPARTMENT.

Added within the year, a department of meteorology and telegraphy.

LIBRARY.

Increased by 200 volumes and 75 pamphlets, the latter gifts.

MUSEUM.

Received by gift, 700 specimens.

PUBLICATIONS.

By the university, the annual catalogue, and commencement-programmes; and by the literary societies, *The Collegian*, a semi-monthly periodical.

SCHEME OF INSTRUCTION AND GOVERNMENT.

The university embraces in its plan seven colleges, one of science and literature, one of agriculture and mechanics, and one "of the Bible," with normal,* commercial, law, and medical colleges, each under the immediate government of its own faculty and presiding officer, while the general supervision of the university as a whole is committed to a regent who is elected from among the curators.

HISTORY.

To the untiring and disinterested devotion of its present regent, John B. Bowman, LL. D., the university owes its origin and present existence. The idea conceived by Mr. Bowman, and to which, while yet a

* The normal and medical colleges embraced in the plan are not yet organized.

young man, he devoted his life, not only without hope of pecuniary reward, but at great positive sacrifice, was to found in his native State a university for the people, accessible to the poorest boy in the land; his intention being, as he expressed it, to "cheapen this whole matter of education, so that it may run as free as our great rivers, and bless the coming millions."

His appeal to the people for funds met with remarkable success, \$150,000 having been donated within 150 days, a sum which was soon increased to \$200,000. In 1858 the university was chartered; the following year the college of arts was opened, and, owing to the vigilant and efficient care of its founder, no suspension of the college occurred, and not a dollar was lost, although, during the war, opposing armies were encamped around, and the buildings were finally taken as hospitals for the sick and wounded.

In 1865, again through the efforts of Mr. Bowman, who raised over \$100,000 for the purchase of an experimental farm, the congressional provision for the benefit of agriculture and the mechanic arts was incorporated, with the funds of the university, making a grand capital of over half a million of dollars, which has since been increased to the amount of about \$800,000, including the endowment and real estate of the institution.

CENTRE COLLEGE, DANVILLE.

Commencement, Thursday, June 26th.

DEGREES.

In course, A. B., 15; A. M., 8; Sc. B., 1. Honorary, A. M.: Robert C. Bowling—1; D. D.: Rev. Thomas J. Dodd, Covington, Kentucky, and Rev. W. G. Craig, Keokuk, Iowa—2; LL. D.: Hon. Preston H. Leslie, governor of Kentucky, W. H. Wadsworth, of Maysville, Kentucky, and Curtis F. Burnham, of Richmond, Kentucky—3.

PROFESSORS APPOINTED.

To the chair of moral science and evidences of Christianity, Dr. J. H. McKee, vice-president of the institution, and to that of natural science, Professor J. C. Fales.

BENEFACTIONS.

From many friends, too numerous for special mention, donations amounting to \$50,000.

From General J. T. Boyle \$1,000, and from Dr. Geo. W. Scott \$150 a year, to the scholarship-fund.

LIBRARY.

Received, by gift, about 100 volumes, and a few pamphlets.

MUSEUM

Increased by the addition of several hundred specimens.

EMINENCE COLLEGE, EMINENCE.

Commencement-day at this college was Thursday, June 5. The graduating class numbered thirteen, of whom ten were ladies. Degrees were conferred upon only four of the class, the remaining nine having pursued the special course of study in the female department, receiving certificates of graduation in that department.

DEGREES IN COURSE.

Special class not given; A. B., 4.

PUBLICATIONS.

By the college, the annual catalogue; and by the students, two periodicals, *The Prismatic Gem*, and *The Dewdrop*.

DRESS.

Plainness of dress is encouraged and inculcated; parents are especially requested to furnish only plain, substantial clothing for their children; and, as a result of this influence, it is noticed in a newspaper report of the commencement-exercises, that one of the lady-graduates upon that occasion was dressed in calico.

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BEREA COLLEGE, BEREÄ.

The seventh anniversary of this college was celebrated and its first graduating class sent forth on Wednesday, July 2.

A specialty of the institution is that it furnishes equal facilities for education to all classes, white and colored, male and female; hence, of the 19 students who took part in the graduating exercises, 5 were colored, 13 were male, and 6 female. The audience, numbering from 1,200 to 1,500, was about two-thirds white and one-third colored. Here were congregated together the white men of the mountains, some of whom had ridden on horseback eighty miles to attend the exercises, the colored people of the Blue Grass region, and the wealth and aristocracy of Richmond and Lexington.

On Monday evening of commencement-week, Hon. William Brown, a member of the Kentucky State legislature, addressed a large audience, by invitation of the college-societies, his theme being "The duty of the State to provide education for her citizens regardless of race

or color." Though able and eloquent, this address was chiefly remarkable as coming from a Kentuckian, the child of slaveholding parents, formerly a slaveholder himself, and born and brought up in a slave-State. He was, he said, "a man grown before his lungs were ever filled with the pure air of a free State," and, as he had been nourished and supported from his youth up by slave-labor, and to slave-labor owed his education, his livelihood, his wealth, and whatever of advancement and distinction he now enjoyed, he felt that there was a solemn obligation resting upon him to repay, as far as possible, the debt he owed the race.

DEGREES.

In course, A. B., 3. Honorary, none.

LIBRARY

Increased by gift of 200 volumes.

NEW BUILDING.

Just completed a ladies' hall, costing \$50,000.

PUBLICATIONS.

By the college, the annual catalogue, commencement-programme, and sundry circulars.

GEORGETOWN COLLEGE, GEORGETOWN.

Commencement occurred on Thursday, June 12th.

DEGREES.

In course, A. B., 3; Sc. B., 6. Honorary, none.

RE-ORGANIZATION OF COURSE OF STUDY.

The whole college-course of study has been re-organized on the elective plan, and the studies distributed into eight departments, of which three, namely, those of English literature, modern languages, and history and political economy, are mainly new.

PROFESSORS APPOINTED.

Rev. H. W. Donald to the chair of moral philosophy, and Rev. R. M. Dudley to that of history and political economy.

Endeavors are being made to add \$100,000 to the endowment, in order to add other professors.

BENEFACTIONS.

From T. C. McCalla, \$15,000, but charged for a time with an annuity, to be paid out of the proceeds.

O H I O .

CAPITAL UNIVERSITY, COLUMBUS.

Commencement, last Wednesday in June.

DEGREES.

In course, A. B., 7; A. M., 6. No record of any others.

NEW PROFESSORS.

The Rev. C. H. L. Schuette, A. M., has been appointed professor of mathematics, and Mr. George C. Dasher, A. M., professor of natural philosophy.

BENEFACTIONS.

The gifts of money for college-purposes received during the year have amounted to about \$10,000.

LIBRARY.

Increase for the year, about 50 volumes; whether by purchase or gift is not indicated.

NEW BUILDINGS.

Preparations are made to erect a new college-building, boarding-house, church-edifice, and five residences for professors. Probable cost, from \$100,000 to \$125,000.

OHIO UNIVERSITY, ATHENS.

Fifty-eighth commencement, Thursday, June 26.

DEGREES.

In course, A. B., 7; A. M., 5. Honorary, A. M.: Rev. E. W. Lithwefel, Athens, Ohio—1. No further returns.

DENNISON UNIVERSITY, GRANVILLE.

At the last commencement, June 26, the degrees conferred were,

IN COURSE.

A. B., 4; Sc. B., 2.

HONORARY.

A. M., 2; D. D., 1. No names of recipients given.

LIBRARY.

Increase for the year past, 300 volumes, making the books accessible to students over 11,000 volumes. Gifts of money received, \$350.

PUBLICATION.

Catalogue of 1872-'73.

DEATH OF PRESIDENT.

The president of the university, the Rev S. Talbot, D. D., died June 29, 1873.

OBERLIN COLLEGE, OBERLIN.

Promptly at 9 o'clock on the bright morning of August 5, the exercises of the fortieth Oberlin commencement were opened by its venerable ex-president, and thence continued for the greater portion of the day. Twenty-two young men and one young lady constituted the graduating class in the full collegiate course. Thirty completed the ladies' course, which differs from the full collegiate in pursuing Latin only through Cicero, Sallust, and Virgil, and substituting French for Greek. Nine graduated in the theological course. One of the lady-graduates was colored. In the absence of distinct official information, this is all that can be stated as to the commencement.

NUMBERS.

The number of students during the year past, in all departments, has been 1,246.

FINANCES.

At the alumni-dinner, following the commencement, it was stated that the annual income of the college amounts to \$22,000 and the expenses to \$30,000; the deficit being made up by contributions from friends. The professors, receiving only \$1,200, are compelled to eke out these scanty salaries by preaching and other extra-official work. For the great work which it is doing the college needs much larger funds.

NEW BUILDING.

Council-Hall, a new erection for college-uses, has risen to its second story, but needs \$40,000 more for full completion.

The students have been seeking means to put up a gymnasium, and have nearly secured the amount required.

PROPOSED CHANGES.

In addition to other improvements in the preparatory department, it is proposed to divide it—putting into a separate school, with its own principal, the students preparing for college-classes. It is also proposed to reconstruct the ladies' course, and to give the graduates in the new course a degree as well as a diploma.

OHIO WESLEYAN UNIVERSITY, DELAWARE.

This institution stands in close relation to the Ohio Wesleyan Female College, at the same place, and their commencements are held on successive days. That of the college for females came on Wednesday, June 25, in the opera-house of the city, when, in two successive sessions, morning and afternoon, 32 young ladies delivered addresses and 30 received the diploma which marked them as *Artium Baccalauræ*. That of the university was held on the following day, when again there were two sessions, morning and afternoon, in which 36 young gentlemen took actual part, several others having been excused after having parts assigned them.

DEGREES.

In course, A. B., 42; A. M., 30. Honorary, A. M.: Phineas P. Mash, Springfield, Ohio; John S. Jones, Delaware, Ohio; F. S. Davis, Gallipolis, Ohio; William H. Lawder, Waynesville, Ohio—4; D.D.: Rev. Francis S. Hoyt, Cincinnati, editor of Western Christian Advocate, and Rev. J. H. Bayliss, Indianapolis—2.

BENEFACTIONS.

The university has received since last commencement, from the following donors, the sums appended to their respective names: J. R. Wright, Cincinnati, \$5,000; P. P. Mash, Springfield, \$5,000; J. F. Bartlett, Columbus, \$4,000; J. M. Trimble, Columbus, \$1,000; J. R. Wright, Cincinnati, (additional,) \$2,500; J. F. Wright, Cincinnati, \$2,500; other smaller sums, \$5,000. In all, \$25,000.

MUSEUM.

The museum of the university has received during the past year gifts of specimens to the number of 8,000; of money, \$500.

NEW BUILDINGS.

A large new edifice, substantially built of limestone, one hundred and three feet front and three stories high, costing \$41,500, and designed for recitation-rooms and museum, has been added to the accommodations of the institution.

PUBLICATIONS.

By Professor J. P. La Croix, two volumes of *Christian Ethics*, published by Nelson & Phillips, New York ; \$1.75 each. By the university, the annual catalogue.

CHANGES.

The college for females loses, by resignation, the valuable services of President Donelson, who has been for seventeen years at its head, and of Mrs. Donelson, who has occupied for five years the position of governess. They go out with most flattering testimonials from both the trustees and alumnæ ; while Dr. F. A. Newhall, for many years a professor in the university, retires from the active duties of the ministry in New England to take the presidency.

. MOUNT UNION COLLEGE, MOUNT UNION.

At the recent commencement there were ten graduates, of whom two were females. Of the degrees in course bestowed on these no report has been received.

HONORARY DEGREES.

D. D. : Rev. G. H. Whitney, Passaic, New Jersey, author of a *Hand-Book of Bible Geography*, and Rev. William H. Locke, A. M., Alliance, Ohio, author of *The Story of the Regiment—2*.

CO-EDUCATION OF THE SEXES.

At a meeting on the afternoon of commencement-day, Governor Noyes, of Ohio, took strong ground in favor of giving females equal rights with males in colleges and higher schools, and of having them pursue their studies in close association with the other sex.

It is a rule of the college that ladies shall be admitted on the same terms as gentlemen to all classes and departments, to all honors and privileges, and even to the position of trustee or professor.

FINANCES.

The college possesses an unincumbered property, estimated to be worth over \$386,000, with an income for the last year of \$22,750.

CINCINNATI WESLEYAN COLLEGE, CINCINNATI.

At the thirtieth anniversary of this college for young women, held June 14, 18 young ladies graduated in the academical and scientific schools and 4 from the school of music, in which last school 105 pupils have been in attendance.

DEGREES IN COURSE.

The 9 graduates of the academic department received the degree of A. B.; 9 from the school of science that of Sc. B., and 1 that of A. M. in course. Whether that of Mus. B. was conferred on the graduates of the school of music is not stated.

HONORARY DEGREE.

The honorary degree of A. M. was bestowed on Miss Ellen R. Martin, principal of the Wyoming Seminary, Pennsylvania—1.

NEW DEPARTMENTS PROPOSED.

A college of accounts and a woman's medical college are among the projects for the coming year.

ADVANCE IN COURSE.

The courses of study have been gradually advanced until they contain the full equivalent of our best colleges, and pupils completing them receive the regular American-college degrees. The institution has since 1842 graduated 412 young women, and not less than 5,000 have received instruction in its halls.

 MARIETTA COLLEGE, MARIETTA.

The commencement here occurred this year on the 3d of July. Degrees in course conferred at that time: A. B., 10; A. M., 5. Honorary, A. M.: Mr. William Holden—1; D. D.: Revs. William E. Moore, of Columbus, and Hugh E. Thomas, of Pittsburg—2.

NEW PROFESSOR.

Professor S. S. Orris has succeeded to the chair of Greek vacated by the resignation of Professor John Kendrick, LL. D.

BENEFACTIONS.

The gifts of money received since the last commencement aggregate \$3,450. A scholarship of \$1,000 endowment has been founded by Marcus Bosworth, esq., of Middleport, Ohio, and a prize-fund of the same

amount by J. Munro Brown, esq., of New York. A friend of the college, who has made large gifts before, offers it \$50,000 if \$80,000 additional shall be raised from other sources. The first response is a pledge of \$5,000.

LIBRARY.

The total increase of the library has been 1,091 volumes and 2,126 pamphlets, 924 of the former being gifts.

OTTERBEIN UNIVERSITY, WESTERVILLE.

From its beginning this university has been open on the same terms to students of either sex, the young ladies connected with it rooming in a different hall from the young men, but reciting in the same classes and to the same professors, though usually in an abbreviated course. At the recent commencement, June 5, one of the graduates was a lady.

The baccalaureate-address of President Thompson was a development of the distinctive principle of this university, that there is as much need for culture of the heart as of the head, and that an educated Christian is the highest style of man.

DEGREES.

In course, A. B., 1; A. M., 6; Sc. B., 2; Sc. M., 1. Honorary, D. D.: Rev. J. J. Glossbrenner, Dayton, Ohio—1; LL. D.: Hon. Schuyler Colfax, South Bend, Indiana, who had delivered before the literary societies an address upon "The power of habit"—1.

NEW SCHOOL.

A normal or teachers' class has been opened for the special instruction of such as desire to become teachers.

NEW INSTRUCTOR.

A lady assistant has been appointed in the female department.

BENEFACTIONS.

From T. Merchant, esq., \$5,000; from various other friends, in sums of from \$25 to \$500, about \$12,000.

LIBRARY.

The library, having been some time since destroyed by fire, is still small. Increase during the year 200 volumes, the product of moneyed gifts from friends.

PUBLICATIONS.

By the college: annual catalogue, circular, programme, &c.

WITTENBERG COLLEGE, SPRINGFIELD.

An address before the alumni, by Hon. J. D. Cox, opened the exercises of commencement-week at this college, whose name recalls the fountain-head of Lutheranism. The address was delivered on Wednesday evening, June 25, and dealt with the subject of "The permanency of type among the different races of mankind," deriving hence an argument against too great an extension of our territory as tending to bring into a dangerous influence in our Government the low-type races who extensively prevail in Mexico and the southeastern islands of our seas.

The addresses of the students on commencement-day, as reported in the *Lutheran Observer*, did credit to the training received by them at the college, displaying, with a fair degree of culture, a critical discernment and a literary taste not always exhibited on such occasions. The excellent spirit that pervaded them was also noteworthy. In these addresses the students were limited to ten minutes each.

After a baccalaureate-address from President Sprecher, in which he urged the cultivation of "The true ideal of life," as embracing religious as well as intellectual development, the kingdom of God around, above, and within us, there were conferred the following

DEGREES.

In course, A. B., 11; A. M., 9. No honorary degrees reported. The bestowment of degrees was followed by the brief but sufficient words from the venerable president: "Our last wish, as our first, only intensified by the long and pleasant intercourse that has subsisted between us, is that you may henceforth so prosecute your studies as to become not only eminent in literature, art, and science, but good, true, and noble followers of our Lord Jesus Christ."

BENEFACTIONS.

Three thousand dollars (\$3,000) by legacy from Rev. Dr. Wolf. By gift from Mr. Hawley, property amounting to \$6,000, and by subscriptions from many friends of the college, \$110,000.

NEW BUILDING.

A boarding-house, erected by the college for the further accommodation of its students, has materially improved those accommodations, at a cost of only \$3,000.

HEIDELBERG COLLEGE, TIFFIN.

The only account of the exercises of commencement-week at Heidelberg received at the Bureau of Education has been a statement in the

annual catalogue that the address before the literary societies was to be delivered on Tuesday, June 17, by Hon. Thomas J. Allen, and that before the alumni by Miss Florence Cronise, A. M., on Wednesday, June 18. This last is one among many indications, not only of the extent to which women are taking hold of educational advantages in western colleges, but also of the way in which educated women are being used to give new interest to college-exercises.

DEGREES.

The degrees conferred in course at the commencement on Thursday, June 19, were A. B., 3; Sc. B., 4; *Scientiæ Magistræ*, 2. No honorary degrees.

NEW PROFESSORSHIP.

The alumni have created during the year past a professorship of belles-lettres, which has been filled by the appointment of Mr. C. O. Knepper, A. M., to the chair.

BENEFACTION.

R. W. Shawhan, esq., has donated 6,080 acres of land in Missouri, valued at \$15,000, to found a professorship, to be called the Shawhan Professorship of Natural Sciences.

NEW BUILDING.

A new boarding-hall is now in course of erection for the college at a cost of about \$7,000.

KENYON COLLEGE, GAMBIER.

This principal institution of the Protestant Episcopalians of Ohio celebrated its forty-seventh commencement this year under painful circumstances, having recently lost by death in Italy the venerable president of its board of trustees and of its theological faculty, the Right Reverend Charles P. McIlvaine, D. D., D. C. L., and LL. D., a man of princely presence, large acquirements, high literary reputation, and noble Christian character. This great loss threw a shade over all the exercises, and made what is usually a festal scene almost a funereal one.

DEGREES.

In course, A. B., 9; A. M., 7. Honorary, none.

As to the degree of Master of Arts, it was resolved by the faculty that, as this should be evidence of more thorough scholarship than is required for the degree of Bachelor, the following rule should hold, after the present year:

"Candidates for the degree of Master of Arts in course, must show that they have, since taking the Bachelor's degree, been engaged for three years in the study or practice of one of the learned professions, or in other scientific or literary pursuits; and each candidate must deliver to the faculty an essay upon some literary or scientific theme."

LIBRARY.

The increase of the library during the past year, mainly from gifts, has been 300 volumes.

CHANGE OF HEAD.

The presidency of the theological faculty, as well as that of the board of trustees, devolves by the death of Bishop McIlvaine on the Right Reverend Gregory T. Bedell, D. D., late assistant bishop of the diocese, and now its bishop.

ROLL OF HONOR.

One interesting feature of the last triennial catalogue is a roll of nearly two hundred names of Kenyon officers and students, who, at the call of their country, enlisted beneath her standard for the preservation of the Union and the recovery of the seceding South. It is an honorable list, marked by distinguished service, and goes to show how great an amount of culture went into the war and stood behind the bayonets.

THEOLOGICAL DEPARTMENT.

The theological seminary connected with the college has been temporarily suspended, and will probably be removed to another site.

HIRAM COLLEGE, HIRAM.

The sixth commencement of this institution as a college, the twenty-third since its foundation as a school, was held on Thursday, June 19, the programme being: 10 a. m., commencement-exercises of the graduating class; 12 m., baccalaureate-address by President Hinsdale; 12½ p. m., address before the Alpha-Delta Literary Society by Hon. A. G. Riddle, of Washington, D. C.

DEGREES.

In course, A. B., 6; A. M., 2; Sc. B., 4. Honorary, none.

LIBRARY.

The library has received during the year an accession of 600 volumes.

MUSEUM.

The museum is reported to have received 500 additional specimens and \$100 in money since the last commencement.

PUBLICATIONS.

By the college: *Sixth Annual Catalogue*, *Programme of Biblical Instruction*, and programme of commencement-exercises.

ADVANCED COURSE.

The former "teachers' course" has been extended, and renamed "higher English," and in this a normal class is organized each fall term, to meet the wants of teachers in the public schools.

NEW PROFESSOR.

Mr. Grove E. Barber has been advanced to the chair of Latin and Greek languages and literature.

REPORT OF PRESIDENT.

"Previous history of college encouraging in the way of patronage, discouraging in the way of money; prospect in the latter particular, brightening. One of its friends is about to endow the chair of mathematics."

WESTFIELD COLLEGE, WESTFIELD.

The fifth annual commencement of this college was held on Wednesday, June 18, when 1 young gentleman received the degree of A. B. in course, and 2 degrees of Sc. B. were conferred, also in course; one of the recipients being a young lady, who was the valedictorian for the day.

WESTERN RESERVE COLLEGE, HUDSON.

The degrees conferred at the annual commencement were: A. B., 16; A. M., 7; M. D., 29. Honorary, none.

LIBRARY.

The library has received recently gifts of \$10,000 in amount, of which \$5,000 came from H. B. Hurlburt, esq. The contribution is meant to form a permanent fund for the increase of the library, the income only to be expended.

PUBLICATION.

The only publication has been the college-circular.

WILBERFORCE UNIVERSITY, XENIA.

The object of this institution is the higher education of the colored race, to which also its president, D. A. Payne, D. D., belongs. Ladies, as well as gentlemen, are admitted to its privileges.

The baccalaureate-sermon, by President Payne, was what could be expected only from one whose head and heart are dedicated to the cause of education and Christianity. His theme was "The work of life." He would not have them think more highly of themselves than they ought to think; the less they thought of themselves, the more God and man would think of them.

The commencement occurred on Wednesday, June 18. After the usual exercises, which were participated in by the entire graduating class of six, President Payne conferred the degrees. To the four of the graduates who had chosen the profession of teacher he gave wholesome counsel, urging them to eminence in piety, for the Christian teacher can take the tender heart of youth and bind it to the cross of Christ. He presented the diplomas with the injunction: "Let the studies and labors of each succeeding year increase the glory that now clusters round your diplomas. Die rather than dishonor them."

DEGREES.

In course, A. B., 4; Sc. B., 2. Honorary, A. M.: Rev. William H. Hunter, Philadelphia, Pennsylvania, and Mrs. Peter H. Clark, Cincinnati, Ohio—2; D. D.: Rev. Henry M. Turner, Savannah, Georgia; Rev. Richard H. Cain, Charleston, South Carolina, and Rev. Benjamin T. Turner, Philadelphia, Pennsylvania—3.

NEW DEPARTMENT.

A normal department has been opened, under a graduate from Oswego, New York; a practical school is appended to it.

NEW PROFESSOR.

A new professor was appointed to the chair of modern languages.

BENEFACTIONS.

The institution received a legacy of \$10,000 from the late Chief-Justice Chase.

LIBRARY.

This has been increased during the year by 150 volumes, all in books.

MIAMI UNIVERSITY, OXFORD.

The trustees of this institution have voted to suspend instruction and

to grant the free use of the buildings and grounds to Professors Bishop, McFarland, and Osborn for such a course of instruction as may be agreed upon. It is expected that they will establish a preparatory school for other colleges and a school of mining, engineering, and metallurgy. If they do not use the property, it may be leased to other parties. The fixed income of the university (\$5,600 a year) is to be used to pay the present indebtedness, and when this is done it is to be properly invested, with a view of reorganizing the university as soon as an endowment of \$50,000 may be secured. A committee of five trustees was appointed, to act in conjunction with the alumni-committee, to petition the legislature of Ohio (and Congress, if necessary) to place the university in the hands of its alumni, as corporate members, to control the institution.

HONORARY DEGREES.

Before the suspension the Rev. J. M. Stone, late of the Iowa State University, was made D. D.—1; and Hon. Henry Stanberry, of Cincinnati, LL. D.—1.

ONE-STUDY UNIVERSITY, SCIO.

From this institution no further information has reached the Bureau than the following:

DEGREES.

In course, A. B., 5; A. M., 1; Sc. B., 13. Honorary, A. M.: Rev. George Crook, of Pennsylvania—1.

LIBRARY.

This has been increased by receipt of 80 volumes.

BALDWIN UNIVERSITY, BEREA.

This institution, designed to provide a thorough education for students, without distinction of sex, graduated a class of 15 young men and women at its last commencement, occurring on Thursday, June 12.

DEGREES.

In course, A. B., 3; A. M., 6; Sc. B., 6; M. B., 4. Honorary, A. M., 1; D. D., 1; and LL. D., 1. Names of recipients not given.

BENEFACTIONS.

Subscribed toward a proposed endowment-fund of \$100,000, by friends of the institution, \$24,000.

LIBRARY.

Received during the last two years about 800 volumes.

MUSEUM.

By gift from D. O. P. Baer, of Richmond, Indiana, a cabinet of fossils, chiefly Silurian, containing 1,000 specimens. Also, a donation of \$60 was received, donor's name not given.

PUBLICATIONS.

By Professor Thomas Freeman Moses, A. M., M. D., *Unity of Natural Phenomena*, a popular introduction to the study of the forces of nature, from the French of Emile Saigey, with notes and an introduction; Boston: Estes & Lauriat, 1 vol., crown 8°, \$2.50. By the institution, *The Urbana University Record*, and two programmes.

INDIANA.

INDIANA UNIVERSITY, BLOOMINGTON.

The annual catalogue of this important institution states that the year now closing has been the most successful in its history, a larger number than ever previously having been in attendance, and a progress greater than that of any preceding year having been achieved. This is thought to be the result in a large degree of the enlightened policy recently inaugurated by the State, and of the liberal appropriations made for the furtherance of the objects of the university. It boasts that, though struggling with difficulties from its inception in 1828 until the receipt of a late appropriation from the legislature, it yet has 864 alumni who have completed a full course, besides 6,000 young men that have received a partial training at its hands. And as all students are authorized to receive instruction free of charge, and ladies are admitted to the collegiate course with the same privileges as young men, its lists are likely to be much enlarged in the near future.

At the recent commencement, July 3, after addresses on the preceding days before the societies by Hon. D. W. Voorhees, and before the alumni by Hon. C. A. De Bruler and Miss Sarah P. Morrison, with others from the governor and lieutenant-governor of the State, there was a bestowment of the following

DEGREES.

In course, A. B., 8; A. M., 6; Sc. B., 12; LL. B., 24; M. D., 48. No honoraries. As these degrees indicate, there are in connection with the classical and scientific departments flourishing schools of law and medicine.

NEW DEPARTMENTS.

A school preparatory to the college of arts, and meant to be the basis of such a college, has been established, as also a system of military training under the direction of an officer of the United States Army. Arrangements for a preparatory department for the college proper have been likewise made.

NEW PROFESSORSHIP AND APPOINTEES.

A professorship of the art of discourse and elocution, a principalship of the preparatory department, and a new tutorship have been insti-

tuted by the college-authorities. The first named has been filled by the appointment of Hon. George W. Hoss, LL. D., to the chair; the second, by that of Walter R. Houghton, A. B., to the principalship; and the third, by making Miss Sarah P. Morrison, A. M., a graduate of the class of 1869, a tutor. The salary of the first has been fixed at \$2,000; that of the second, at \$1,200; that of the third, at \$600. It is said, too, that the trustees have resolved to increase those of all professors who have served ten years or more from \$1,600 to \$2,000, and that of the president from \$2,000 to \$2,500.

BENEFACTIONS.

From the State treasury, for the uses of the university, \$67,000.

LIBRARY.

The increase of the library for the year past has been 500 volumes.

NEW BUILDING.

A new college-edifice, 130 by 56 feet, and three stories high, is in process of erection, at an estimated cost of \$40,000. It is to correspond in style with the existing edifice, which is Elizabethan-Gothic, and on its first floor, in a room 100 by 50 feet, will be displayed the Owen cabinet of over 85,000 specimens. The second floor will be devoted to libraries and recitation-rooms, and the third to a law lecture-room and two halls for the literary societies.

PUBLICATIONS.

By the university, an annual report and a supplementary one. By Professor Daniel Kirkwood, LL. D., *Comets and Meteors, a Treatise on the Phenomena of these, and of the Discoveries made respecting them within the past Forty Years.* Philadelphia, J. B. Lippincott & Co.

NORTHWESTERN CHRISTIAN UNIVERSITY, INDIANAPOLIS.

It has been somewhat extensively stated that Mr. James Johnson, of Indianapolis, had given \$500,000 and a building-site for the foundation of a medical school in connection with this university, \$300,000 to be expended in beautifying the grounds and in building, and the remainder to be invested as a permanent endowment-fund. Information from Indianapolis leads to doubt whether this statement is correct, though what is the source of incorrectness is not indicated. Another published statement, that the university was to be removed to Irvington, a pleasant village three miles from the city, and was to gain by the change a beautiful campus and \$150,000, is confirmed. The removal has been decided on, and it is hoped that in addition to the \$150,000 gained

\$300,000 may be realized from the sale of the present university-site in Indianapolis. A portion of this will be retained for present uses and until the new buildings at Irvington (the foundation for one of which has just been laid) shall be completed. While this matter has been pending the university has not been idle. It has organized two new chairs, elected a number of new professors, sent two of its former ones to Europe for special preparation, and made other changes and improvements, which will be reported in due time.

Of the circumstances of the last commencement, the degrees conferred, the speeches made, and the indications of improvement given, no report has been received.

CHANGE OF HEAD.

President W. F. Black, having resigned his position as head of the faculty, has been succeeded by President O. A. Burgess.

HANOVER COLLEGE, HANOVER.

A peculiarity of this college is, that, though a denominational institution, its advantages are offered, free of charge, to students of all churches.

DEGREES.

At the last commencement, Saturday, June 13, ten students graduated, upon 6 of whom was bestowed the degree of A. B., and on the remaining 4 that of Sc. B. The degree of A. M. was conferred, not in course, but as the result of strict examination, upon 6 graduates of preceding years for proven meritorious attainments in post-graduate and professional studies.

HONORARY DEGREES.

Ph. D.: Professor John McC. Coyner, M. A., superintendent of schools, Rushville, Illinois; Professor Henry S. Kritz, A. M., Collegiate Institute, Waveland, Indiana; and Professor David G. Herron, University of Kentucky—3; D. D.: Rev. Francis S. Patton, A. M., professor in Northwestern Theological Seminary, Chicago, and Rev. Charles Hutchinson, A. M., New Albany, Indiana—2; LL. D.: Rev. Cyrus Nutt, D. D., president of the Indiana State University, and Roger Sherman, esq., Philadelphia, Pennsylvania—2.

DEPARTMENTS.

The curricula of the classical and scientific courses have been materially raised.

NEW PROFESSORS.

To the chair of natural sciences, Professor M. J. Drennan, A. M.; to that of mathematics, Professor W. A. Gedder, A. M.; and to that of Latin language and literature, Professor J. M. Coulter, A. M.

BENEFACTIONS.

From the estate of Mr. John King, of Madison, a legacy of \$12,000 has been received; from Rev. Dr. Jonathan Edwards, of Peoria, Illinois, a gift of \$300; from Mr. S. T. Bowen, of Indianapolis, one of \$272; from Mr. William B. Dickson, of the same place, one of \$12; from other friends, \$500.

LIBRARY.

The library has during the year been increased by gifts and purchases about 300 volumes.

MUSEUM.

About 1,000 specimens have been here added by gift.

 FRANKLIN COLLEGE, FRANKLIN.

After a period of suspended vitality, Franklin College has been revived during the past year. Its lost buildings and grounds, worth \$35,000, have been recovered by a payment of \$13,000, which has been generously contributed by friends, who subscribed \$56,000 for its relief and resuscitation. This leaves it \$43,000 for endowment, which its stockholders hope to increase by \$25,000 during the coming year.

Its plan, as with many of the western colleges, is to educate young women as well as young men, affording them equal advantages. The prospect for a full attendance during the ensuing session is said to be encouraging. The faculty embraces, besides the president, six professors and teachers, of whom three are males and three females.

HONORARY DEGREES.

No senior class existing for graduation at the late commencement, no degrees in course were granted; but two honorary doctorates of divinity were conferred, one on Rev. T. R. Palmer, of Aurora, Illinois, and one on Rev. R. W. Pearson, of La Fayette, Indiana—2; Professor John S. Hougham, of La Fayette, was made doctor of laws—1.

 INDIANA ASBURY UNIVERSITY, GREENCASTLE.

The annual commencement occurred on Friday, June 19, a class of 30 graduating.

DEGREES.

In course, A. B., 18; Sc. B., 12 Sc. M., 9. Honorary, Ph. D.: Professor S. A. Lattimore, of the University of Rochester—1; D. D.: Rev. Richard Horgrove—1.

NEW PROFESSORS.

To the chair of mental and moral science, the president of the college, Professor Reuben Andrews, and to that of mathematics, Professor Patterson McNutt.

BENEFACTIONS.

From Robert Stockwell, of La Fayette, Indiana, a legacy of \$27,000.

NEW BUILDING.

One has been erected costing \$120,000.

PROGRESS.

Asbury since its opening in 1837 has had more than 7,000 students on its lists, and has graduated more than 500 in the departments of literature, law, and medicine.

 EARLHAM COLLEGE, RICHMOND.

Commencement-day was Wednesday, June 25, when a class of 13 graduated.

DEGREES.

In course, A. B., 4; Sc. B., 9; A. M., 1. Honorary, none.

MUSEUM.

An enlargement of the geological cabinet during the coming year is contemplated; also, the construction of new cases.

LIBRARY.

From Joseph Pease, of England, 400 volumes, selected and purchased in England, have been received.

PUBLICATION.

By the college, the annual catalogue.

PURDUE UNIVERSITY AND STATE AGRICULTURAL COLLEGE, LA FAYETTE.

This institution, not yet in operation, is being established under the congressional land-grant for the promotion of agricultural and scientific knowledge. The annual fund from the proceeds of scrip amounts to between \$7,000 and \$8,000, and is in the mean time, until the commencement of the college, increasing by re-investment.

As evidence of progress already made, it is mentioned that a dormitory has been completed at a cost of \$35,000, and a boarding-house and a laboratory are in process of erection; the former to cost \$20,000, the latter \$15,000.

FACULTY.

Richard Owen, D. D., LL. D., one of the faculty of Indiana University, has been elected president of the new college, and Professor Hougham to the chair of chemistry. Six more professors are to be elected the coming autumn, at a salary of \$2,000 each.

UNION CHRISTIAN COLLEGE, MEROM.

Tuesday, June 3, was commencement-day, the graduating class numbering 3.

DEGREES.

In course, A. B., 2; Sc. B., 1. Honorary, none.

BENEFACTIONS.

From R. C. Mitchell and J. Beasley \$250 each, and from Professor McHenry \$30, for the purchase of apparatus.

MUSEUM

Important additions have been made to the geological cabinet.

PUBLICATIONS.

By the college, the annual catalogue and commencement-programme.

MOORE'S HILL COLLEGE, MOORE'S HILL.

Commencement occurred on Thursday, June 26.

DEGREES.

In course, A. B., 1; Sc. B., 2; A. M., 2. Honorary, A. M.: Rev. Robert T. Brewington—1; D. D.: Rev. Samson Fincher—1.

NEW PROFESSORS.

To the chair of mental and moral philosophy and English literature, the president of the college, Rev. F. A. Hester; and to that of mathematics, Rev. J. P. D. John.

LIBRARY.

Increased by receipt of 22 books and 40 pamphlets, 11 of the former and the greater portion of the latter being the gift of Henry C. Baird, Philadelphia, Pennsylvania. Most of the remaining volumes and pamphlets were received from the Departments at Washington, two of them from Senator O. P. Morton.

MUSEUMS.

Increased by receipt of a large variety of geological specimens, such as rain-print rocks, limestone fossils, concretions, calcareous formations, lead and iron ores from the Western States, and rocks from the Indian nations, with scorpions, centipedes, and many other specimens of natural history.

PUBLICATIONS.

By the college, the annual catalogue and three commencement-programmes.

WABASH COLLEGE, CRAWFORDSVILLE.

The graduating exercises took place on Wednesday, June 25, when, after orations by each member of the class of 60 students, the baccalaureate-address to the class was delivered and the degrees conferred by President Tuttle.

DEGREES.

The number and classes of the degrees conferred in course are not given.

HONORARY DEGREE.

D. D. : Rev. Mr. Kendall, of Indiana—1.

MUSEUM.

The cabinet has been enriched by a donation from Dr. Joaquin Cai-cedo, of Colombia, South America, of 80 specimens characteristic of the rich products of the Cauca Valley.

PUBLICATIONS.

By the college, the annual catalogue and two periodicals, *The Wabash Magazine*, a monthly. and *The Geyser*, a semi-monthly journal.

ILLINOIS.

NORTHWESTERN UNIVERSITY, EVANSTON.

Under the auspices of the Methodist denomination, and situated eleven miles from Chicago to the north, this institution numbers five departments: a college of literature and science, a medical college, a preparatory school, a school of theology termed the Garrett Biblical Institute, and a college for the training of females, termed the Evanston College for Young Ladies. The three first named are under the control of its trustees; the last two are under that of separate boards, but in close relation with the others.* In all these, degrees are given; but persons who do not seek a degree are allowed to attend recitations and lectures on certain prescribed conditions; and of this privilege, as the catalogue most amply shows, very many avail themselves, 264 such appearing on the list, out of 744 in al

NEW DEPARTMENTS.

The college of literature and arts, and the college of technology, have been constituted during the year past, and now a college of law also supplements the university-curriculum, and affords the graduates of the collegiate departments an opportunity for prosecuting, in connection with their *alma mater*, whatever professional study they may choose.

NEW PROFESSORS APPOINTED.

To the chair of civil engineering, Professor Metcalf; to that of chemistry, Professor Allyn; to that of esthetics in the woman's college, Miss Frances Willard, at a salary of \$1,800 to be increased to \$2,000 in 1874, to \$2,200 in 1875, and to \$2,400 in 1876.

NEW PROFESSORSHIP.

The Sissan professorship of physics; endowment of \$25,000 by George H. Sissan, esq., of Chicago.

BENEFACTIONS.

In gifts of money since last commencement the university has received through subscriptions, from various individuals, \$10,000.

* By the terms of the compact with the university, the college for young ladies has five ladies in its board of trustees, as well as a lady-principal.

LIBRARY.

Through conversion of real estate to cash, the library-fund has been increased, in the same time, \$47,000.

NEW BUILDING.

A new and handsome edifice for the woman's-college has been completed in the year past, corresponding in general outline with the university-building, at a cost of \$90,000.

DEGREES.

In course, A. B., 11; A. M., 8; Ph. B., 4; C. E., 1; D. B. 8; M. D., 43. Honorary, D. D.: Rev. Arthur Edwards—1.

NEW PRESIDENT.

Rev. Charles H. Fowler, D. D., was in commencement-week inaugurated president of the university.

FINANCES.

The report of the treasurer, read at the meeting of the board of trustees, makes the following exhibition of the financial condition of the university:

Income for the year ending June 10, 1873	\$32,604 08
Expenditure for the same period	33,368 09
Excess of expenditure over income	<u>764 01</u>
Total productive property	\$618,254 42
Total unproductive property (real-estate endowment)...	490,829 10
Buildings, library, &c	276,500 00
Grand total	<u><u>1,385,583 52</u></u>

A newspaper correspondent, going somewhat beyond this, says: "Its assets are two millions; in eight years, it is believed, the property of the institution will be worth ten millions, and in fifteen years twenty-five millions of dollars. Some of the best blocks and most valuable grounds in Chicago are owned by this university. The ground upon which the grand Pacific Hotel is built was leased of this corporation for fifty years. Many think that in forty years this university will be the richest on the globe."

KNOX COLLEGE, GALESBURG.

The twenty-eighth annual commencement-week opened with a bac-

calaureate-discourse by Rev. A. F. Kemp, LL. D. Taking as his theme "Truth," he enlarged upon its power and value as an element of human character, and charged the graduating class to be true to themselves, to their fellow-men, and to their God, the path of truth and rectitude being the only one leading to ultimate success.

At a re-union of one of the societies, on Monday evening, Dr. Kemp spoke of the college as prospering, its students and faculty working in perfect harmony, and all promising a bright future.

On commencement-day, June 26th, after prayer by Rev. Dr. Candee, Hon. Chas. B. Lawrence, on behalf of the trustees, stated that the expenses of the institution had been so far lessened as to make the income from all sources meet them, and that, notwithstanding reports in some quarters to the contrary, the college never was in better condition than at the present time.

DEGREES.

At the close of the commencement-exercises, the following degrees were conferred : In course, A. B., 3 ; Sc. B., 1 ; A. M., 2. Honorary, D. D. : Rev. J. H. Griffith, of Galesburg, and Rev. Professor Blaisdell—2.

CHANGE.

Since 1852 the college has tried the German system of dispensing with a college dormitory and letting the students board all over the city, but now find it necessary to return to the usual system.

DEPARTMENTS.

Besides the academic or preparatory department, (which embraces both an English and classical course,) and the college proper, there is here a ladies'-seminary, designed to furnish to such young ladies as desire it the opportunity for pretty full collegiate culture. The course is briefer than the full college-course for young men, but embraces a four-years' curriculum, and corresponds to what is usually termed the "ladies-course" in Western colleges. The pupils in this have the benefit of instruction and lectures from the president and professors of the college, and may, if they wish to do so, enter the college-classes with the young men. Diplomas of proficiency are granted to those who complete the seminary-course, but no degrees are granted except to such as may go through the full collegiate curriculum.

A new normal department has also been added, during the year past, for the benefit of such as are desirous to become teachers. Those who enter this receive special instruction one hour each day for three months of the fall session in the theory and practice of teaching.

LIBRARY.

The college-library contains 3,000 volumes ; those of the two college-societies, about 2,600. No increase reported.

• MUSEUM.

The collections in natural history, &c., contain 3,000 geological, 1,100 mineralogical, 10,000 zoölogical, and 13,000 botanical specimens, and are said to be constantly receiving valuable additions.

NEW PRESIDENT.

At the meeting of the trustees on commencement-day, Rev. H. A. Nelson, LL. D., of the Lane Theological Seminary, Cincinnati, was elected president of the college. The latest report, however, is that Dr. N. declines the presidency.

CHICAGO UNIVERSITY, CHICAGO.

After the customary freshman-exhibition on Monday, June 23, and the junior-exhibition following the class-day ceremonies on Wednesday, came the annual commencement, Thursday, June 26.

DEGREES IN COURSE.

In the academical department of the university 14 gentlemen received the degree of A. B. in course, and 2 students of the scientific department that of Sc. B. in course. In the law-school 10 gentlemen received the degree of LL. B., and the members of the class of 1869-'70 (number not given) A. M. in course.

HONORARY DEGREES.

A. M.: Hon. Chas. H. Reed, Dr. J. L. Tucker, and Captain C. C. Oarr—3; D. D.: Rev. Edward Sullivan, of Chicago, and Rev. J. R. B. Smith, Geneva, New York—2; LL. D.: Professor Oliver Marcy, of the Northwestern University, and Professor Myric Lyon—2.

ADMISSION OF LADIES.

The board of trustees passed at their meeting a resolution admitting young ladies to all the privileges of the college-classes.

FURTHER ACTION OF TRUSTEES.

A resolution was adopted requesting the faculty to report to the board the propriety of a specific rule with regard to the preparation and delivery of an oration or thesis by the persons who receive honorary or special degrees.

FINANCIAL IMPROVEMENT.

The sum of \$50,000, realized from sale of lands, has been appropriated toward a liquidation of the debt of the university.

ST. IGNATIUS COLLEGE, CHICAGO.

This institution, conducted by members of the Society of Jesus, was incorporated in 1870, and empowered to grant all the academic and honorary degrees usually conferred by universities. Intended for day-scholars only, it has two distinct courses of study; the classical, designed to impart a thorough knowledge of the English, Greek, and Latin languages, of mental and moral philosophy, of pure and mixed mathematics, and of physical sciences; and the commercial, embracing all the branches of a good English education. The former is completed in six years; the latter in four.

Having existed only three years the college has yet graduated no class in either of these courses.

NEW DEPARTMENTS OF SCHOOLS.

A new department, the scientific, has been instituted during the year, and two preparatory schools have been commenced.

NEW PROFESSORS APPOINTED.

A new professor of English and an assistant professor of Latin have been appointed in the year past.

LIBRARY.

The library, already numbering 8,000 volumes, has received during the year an accession of 900 books and 51 pamphlets, with gifts in money amounting to \$300.

MUSEUM.

The museum has had bestowed on it 2,000 specimens in mineralogy, several of which were from the Smithsonian Institution, Washington. The gifts in money reached \$1,000.

COMMENCEMENT.

At the commencement-exercises, June 25, a somewhat novel feature was a conversation in Latin by a party of the students, one in Greek by another party, and a series of experiments in natural philosophy by a third.

HONORARY DEGREE.

The degree of A. M. was at this commencement conferred on Mr. Philip J. Rielly, of New York—1.

ILLINOIS INDUSTRIAL UNIVERSITY, URBANA.

Among the first of the large number of agricultural colleges and in-

dustrial universities arising from the congressional land-grant, this institution was opened for students the 2d day of March, 1868, and on the 11th of the same month formal inauguration-exercises were held.

In the autumn of 1871 it was further opened for the instruction of female students, and now offers all its advantages to all classes of society without regard to sex, sect, or condition.

A school of domestic science and arts is embraced in the course of study, its purpose being to provide a full course of instruction in the arts of the household and the sciences relating thereto.

PROPERTY AND FUNDS.

Besides lands and buildings valued at \$300,000, the university owns 25,000 acres of well-selected lands in Minnesota and Nebraska. It has also endowment-funds invested in State and county-bonds, amounting to \$364,000, besides other property and avails valued at \$33,000. The State has appropriated \$25,000 to the agricultural department for barns, tools, stock, &c.; \$20,000 to the horticultural department, for greenhouse, barns, drainage, tools, trees, &c.; \$25,000 for mechanical and military building, machinery, &c.; \$75,000 to begin the erection of the main building, which is to cost \$150,000; \$10,500 to furnish the chemical laboratory; and \$20,000 for library and apparatus.

LIBRARY.

This includes about 8,000 volumes, which have been carefully selected with reference to the scientific studies in the several practical courses.

ILLINOIS COLLEGE, JACKSONVILLE.

The class of nine students who graduated at the recent commencement of this college received degrees as follows: 3 the degree of A. B. and 6 that of Sc. B. Of the former graduates 2 received that of A. M.

HONORARY DEGREE.

The honorary degree of D. D. was bestowed upon Rev. Horatio Butterfield, of New York—1.

BENEFACTIONS.

The college has received, within the current year, from Samuel A. Hitchcock, of Brimfield, Massachusetts, \$25,000 to endow the chair of mathematics, filled by Professor R. C. Crampton; and from the same a like amount, to endow the chair of natural sciences, filled by Professor H. E. Storrs.

NEW BUILDING.

For the erection of a new building, which is now under way, the college has received, from various sources, the sum of \$16,000, the building being intended for a dormitory.

EUREKA COLLEGE, EUREKA.

Thursday, June 5, was commencement-day, when a class of seven, among whom were two ladies, graduated. Of these 3 received the degree of A. B., 2 that of Sc. B., and the remaining 2 that of *Scientiæ Magistræ*.

BENEFACTIONS.

The college has received during the year donations to the amount of \$23,967.25, as follows: \$1,000, entitled orphan-fund, and supposed to be for the education of orphans; notes in aid of the college to the amount of \$3,877.25; an absolute endowment of \$1,400, and a conditional endowment of \$17,690.

LIBRARY.

An increase of 30 volumes is reported.

MUSEUM.

The museum, during the year, has received gifts of specimens to the number of 500.

PUBLICATIONS.

These consist of the annual catalogue of the college and a programme of the commencement-exercises.

WHEATON COLLEGE, WHEATON.

A special feature of this institution is that the seniors, both ladies and gentlemen, read carefully prepared essays in the chapel-service at least two mornings in the week. Such mornings as are not thus occupied are devoted to brief lectures by the president.

A class of twelve graduated at the last annual commencement, occurring on Wednesday, June 25. Of these, 8 received the degree of A. B., and 3 that of A. S., (*Artium Soror*.) The remaining one was probably a graduate in a special partial course. The degree of A. M. was conferred in course upon 5.

NEW PROFESSORS.

Two have been appointed, namely, Professor S. T. Stratton, to the chair of Natural Sciences, and Professor C. A. Blanchard to that of English Language and Literature.

BENEFACTIONS.

By different persons the amount of \$3,800 was donated to the building-fund.

LIBRARY.

Increased by the addition of 1,000 volumes of books from J. B. Walker, D. D.

NEW BUILDING.

A new building has been completed during the year. It includes recitation-rooms, chapel, and boarding department for young ladies.

PUBLICATIONS.

By the college, the annual catalogue and a commencement-programme.

AUGUSTANA COLLEGE AND THEOLOGICAL SEMINARY,
PAXTON.

Swedish in origin, this college is yet in its infancy, and has thus far conferred no degrees. The recent commencement-exercises were favorably mentioned in the city-papers. The college-department has hitherto been frequented mainly by those who were seeking preparation for the theological seminary and the ministry, and who, from stress of circumstances, have been unable to complete their college-course.

In the seminary, or theological department, the instruction has been given mainly by the Rev. Dr. Hasselquist, and in the college, or normal school, by Professors Reck, Cervin, and Granere.

ADDITIONAL TUTOR.

The institution secured in February last the services of Mr. John F. Lindgren, from the University of Upsala, in Sweden. He is instructor in the Swedish, Latin, and Greek languages, and in arithmetic, and his presence enables Professors Cervin and Granere to give larger aid to Dr. Hasselquist in the instruction of the students of the seminary.

NORTHWESTERN COLLEGE, NAPERVILLE.

The baccalaureate-sermon was delivered on Sunday, June 8, by President Smith.

Wednesday, June 11, witnessed the usual commencement-exercises and the graduation of a class of two, one of whom received the degree of A. B. and the other that of Sc. B.

Diplomas were awarded to those students who had completed the German course.

BENEFACTIONS.

The college has received, during the year, a donation of \$19,500.

PUBLICATIONS.

In addition to the annual college-catalogue and commencement-programmes, a monthly magazine, the *College Chronicle*, is published by the institution.

LINCOLN UNIVERSITY, LINCOLN.

The commencement-exercises took place on Thursday, June 19, when a class of ten graduated, two of whom were ladies.

BENEFACTIONS.

During the past year the sum of \$80,000 has been added to the endowment of the institution, in the form of donations and bequests.

The university is reported to be in a flourishing condition. Several gentlemen of wealth, it is stated, are under promise to make the endowment handsome donations soon.

ABINGDON COLLEGE, ABINGDON.

The baccalaureate-sermon of President Butler, delivered on Sunday, June 1, closed with the following address to the graduating class:

"You now have free access to the literature of the world. The fields of art and science are spread out before you inviting you to enter and pluck golden fruits. Enter, then, with strong hearts and diligent hands, and at the close of your life's labor you shall retire with ample spoils. When your college-days are over, you will not cease your advancement, but will enlarge your field and, I hope, intensify your efforts to accomplish a good and noble work in life. You will feel it to be for your highest interests and the greatest good of your fellow-men, to immediately take your stand in society among the noble, true, and good."

At the commencement, Thursday, June 5, 22 young gentlemen and ladies graduated, to 7 came the degree of A. B., and 15 that of Sc. B.

NEW SCHOOLS.

Two special schools have been added during the year past, a commercial, including in its course telegraphy, and a school of phonography. It is proposed also to establish a normal course for the entire session, instead of only for the spring term, as heretofore.

BENEFACTIONS.

The institution has received from its friends a donation of \$18,000, which relieves it of all debt, the entire college-property remaining worth \$60,000. A further amount of \$20,000 has also been given, \$10,000 by friends of the college toward the endowment of a chair of sacred literature, and \$10,000 by its students toward the endowment of "The students' chair of ancient languages."

LIBRARY.

A library-association has been established during the year past, and a large amount of current literature furnished besides some books of reference. The college-library is small; but the three societies connected with the institution are said to have each a very good one.

MUSEUM.

Some additions are reported. The collection is said to be a useful one for practical illustration of the studies of the scientific classes.

PUBLICATION.

The only reported publication is the annual catalogue.

 SHURTLEFF COLLEGE, UPPER ALTON.

At the recent commencement, according to a custom of this college, the male students at 8.30 a. m. formed in procession and marched with music through the principal streets of the town, reaching at 9.30 the college-campus, where they were met by the lady-students, the faculty, and a number of the alumni, and proceeded to the church in which the exercises were to be held. After the customary devotional exercises, there were conferred the following

DEGREES IN COURSE.

On the 3 members of the graduating class, one of them a lady, who has been the first of her sex to complete the full collegiate course, the degree of A. B. On 3 members of the class of '70, that of A. M. in course.

HONORARY DEGREES.

The degree of A. M., *honoris causâ*, was bestowed on James P. Slade, esq., of Belleville, Illinois, and Dr. R. J. Kay, of Bushnell, Illinois—2; that of LL. D. on Professor Charles Fairman, Havana, New York—1.

SPECIAL SCHOOL ADDED DURING THE YEAR.

Kendall Institute for Young Ladies, an appendage to the college.

NEW PROFESSOR AND TUTOR.

E. Marsh, jr., Ph. D., has been made professor of chemistry; L. M. Stewart, A. B., has been made tutor in mathematics.

BENEFACTIONS.

From a legacy by Mrs. Mariam, \$1,000 for a ministerial scholarship. By gift from E. Gore, esq., Quincy, \$10,000 to purchase a building for the Kendall Institute for Young Ladies. A newspaper report states that the college, in furtherance of this design, has purchased the property formerly known as Rural Park Seminary, and that donations to the amount of \$20,000 were made for the purpose.

LIBRARY.

The amount of increase to the library is not stated. It has received in moneyed gifts during the year \$250.

NEW BUILDING.

For the Kendall Institute, a building with ten acres of ground attached has been purchased for \$20,000.

 WESTFIELD COLLEGE, WESTFIELD.

The graduating class at this college the present year consisted of only 1, in the academical department, who received the degree of A. B. The degree of Sc. B. was conferred in course upon 2, and that of Sc. M. upon 1.

NEW PROFESSOR.

Professor Elliot Whipple, A. M., has been appointed to the chair of mathematics.

BENEFACTIONS.

A gift of \$600 has been received from a person who desires his name withheld; also sundry smaller sums from other parties.

LIBRARY.

This has been increased to the amount of about 50 volumes.

MUSEUM.

Gifts of specimens have been received, consisting of valuable petrefactions, &c., from Rev. J. Neugent.

NEW BUILDING.

An addition has been built to the ladies' boarding-hall, valued at \$2,000.

PUBLICATION.

The annual catalogue of the college.

McKENDREE COLLEGE, LEBANON.

Pleasantly situated in the town of Lebanon, twenty-two miles east of Saint Louis, this college is said to be the oldest Methodist college west of the Alleghanies, and the senior of all the colleges of Illinois. Like most others, it has a scientific as well as a classical course, differing from the latter merely in dropping the ancient languages. Ladies were first admitted to it in 1869, and since then there has been an average attendance of about 25 each year. In all, 242 students have graduated at the institution, 127 in the classical and 115 in the scientific course. At the recent commencement the alumni-meeting was graced by the presence of lady-graduates, and the exercises on the platform were shared by lady-members with the young gentlemen of the graduating class.

DEGREES IN COURSE.

After the speaking, the following collegiate diplomas were conferred: In the classical department, A. B., 5; A. M., 6; in the scientific, Sc. B., 9; Sc. M., 5; in that of law, LL. B., 2.

HONORARY DEGREES.

A. M.: Colonel Wm. M. Heath, of Saint Louis, Missouri, and Professor D. Parkinson, of Aurora, Illinois—2; besides one lady made *Scientiæ Magistra, pro merito*—1; D. D.: Rev. C. E. Fellon, Saint Louis, Missouri, and Rev. Samuel Jewett, Aurora, Illinois—2.

BENEFACTIONS.

During the year \$2,500 in small sums has been received from friends.

LIBRARY.

The increase of books by purchase has been 122 volumes; by gift, 94, with 325 pamphlets, making about 7,500 volumes.

MUSEUM.

The museum has received donations of seven works of art, viz, four paintings representing geological eras; one representing sunset in the Yosemite; one, sunrise at the Acropolis; and one portrait of Bishop McKendree.

It has also been increased by specimens of 70 native birds, 20 varieties of birds' eggs, and 300 American mineralogical and geological specimens. From the Rev. P. J. Wilson, missionary to Barilly, India, it has received 116 Indian birds, 5 reptiles, 5 mammals, and 75 ethnological specimens, images of gods, &c.

 MONMOUTH COLLEGE, MONMOUTH.

At the recent commencement, June 19, twenty-five members of the graduating classes, male and female, delivered orations or read essays before the reception of their respective degrees. These were as follows:

DEGREES IN COURSE.

A. B., 15; A. M., 19; Sc. B., 14; ten out of the fourteen being conferred on females.

HONORARY DEGREES.

The honorary degree of D. D. was bestowed on the Rev. President Grier, of Erskine College, South Carolina, and Rev. Professor Bruce, of Xenia Theological Seminary, Ohio—2.

NEW PROFESSORSHIP.

A professorship of mechanical philosophy and civil engineering has been instituted during the year in addition to the previously existent ones.

BENEFACTIONS.

About \$12,000 has been received for college-uses in notes from many individuals.

PUBLICATIONS.

The only official publications by the college have been the annual catalogue and commencement-programme.

The students have published a *College Courier*, devoted to college-news and literature.

 ILLINOIS WESLEYAN UNIVERSITY, BLOOMINGTON.

The last annual commencement of this institution occurred on Thursday, June 19, when nine students graduated.

DEGREES IN COURSE.

The degrees bestowed in course were as follows: A. B., 5; A. M., 5; Sc. B., 4.

HONORARY DEGREES.

The honorary degree of D. D. was bestowed upon Rev. James A. Dean, president of East Tennessee Wesleyan University, and upon Rev. Andrew J. Lyda, Wheeling, West Virginia—2.

NEW DEPARTMENTS.

Law and medical departments have been added during the year.

LIBRARY.

Gifts have been received, of congressional reports and of the last volume of the *Smithsonian Contributions to Knowledge*.

MUSEUM.

Specimens have been received from the vicinity of Hot Springs, Arkansas, consisting of crystals of quartz and spheue, iron-ore, &c.

PUBLICATIONS.

By Professor S. S. Hamill, A. M., *The Science of Elocution*, published by Nelson & Phillips, 388 pp., 8°. First edition, 1,000 copies; a second edition ordered in six months from date of first issue.

By the college, in addition to the annual catalogue and commencement-programmes, a monthly magazine, entitled *The Alumni Journal*.

LOMBARD UNIVERSITY, GALESBURG.

The baccalaureate-sermon was delivered on Sunday, June 15, by Rev. William Livingston, A. M., president.

Wednesday was commencement-day, when a class of seven graduated, all but one of whom were ladies.

DEGREES.

The degrees conferred were: A. B., 3; A. M., 3; A. L., (Laureate of Arts,) 4; this last marking, of course, a portion of the lady graduates whose line of study had differed from that entitling to A. B.

LIBRARY.

The number of books in the college-library is 3,500, while that of the college-society has 1,000. Gifts have been received during the year of 200 volumes in books and 100 pamphlets.

MUSEUM.

This contains 1,000 specimens of minerals and 200 specimens of fossils.

MICHIGAN

UNIVERSITY OF MICHIGAN, ANN ARBOR.

This really noble institution, one of the most important in the West, forms by law a part of the educational system of the State. Meant to complete and crown the work which is begun in the public schools, it is organized in three departments, one of literature, science, and arts; one of medicine and surgery; and one of law. The first has six regular and full courses of four years each, and two shorter special courses. The regular courses are the classical, the scientific, the Latin and scientific, the Greek and scientific, the course in civil engineering, and the course in mining engineering. The special courses are in analytical chemistry and in pharmacy. Post-graduate courses are provided for the graduates of this or any other university or college who may wish to pursue advanced studies, whether for a second degree or not. Over 1,100 students gather annually within its halls to enjoy the advantages which are thus afforded.

DEGREES.

At the commencement, June 25, the following degrees were conferred: In course, A. B., 40; A. M., 20; Sc. B., 12; Sc. M., 8; Ph. B., 15; C. E., 11; Pharmaceutic Chemist, 9. Honorary, LL. D.: Hon. Thomas M. Cooley, of the State supreme court—1. The number of graduates from the departments of law and medicine is not reported, but is believed to have been in the former about 120 and in the latter nearly the same. A special degree of A. B., to date from 1845, was conferred upon one person.

LIBRARY.

The university contains about 22,000 volumes, and an appropriation of about \$2,000 is annually made for the increase of its books. The medical and law libraries, and those of the literary societies and Christian Association, swell the number of books accessible to students to 30,000. The graduating class of 1872 made a subscription of \$1,100 toward a permanent library-fund.

MUSEUM.

The collections in the museum are illustrative of natural science, ethnology, art, history, agriculture, anatomy, and materia medica, and are constantly increasing. In the year of 1871-'72 the additions in natural

science alone amounted to 4,000 specimens, and an agent of the university has been since actively engaged in South America, Australia, and the Eastern Continent, in making further collections which will add largely to its stores.

BENEFACTIONS.

From the legislature of the State \$25,000 for a new college-building; \$13,000 for making up a deficit for last year, and a permanent State-tax of one-twentieth of a mill, which is said to secure an annual income of \$235,000.

RESULT OF LIBERAL EDUCATION OF A FEMALE.

The first female graduate of Michigan University has been offered \$3,000 a year and her expenses to teach in Japan.

CHANGES IN FACULTY.

Dr. Hillyard, of Minnesota, has come into the natural-history professorship made vacant by the retirement of Dr. Winchell to Syracuse. Professor Tyler has resigned the chair of English language and literature; Mr. Frank Scott, a graduate of Yale in 1869, and subsequently a student in the University of Berlin and private secretary to Minister Bancroft, has been appointed assistant professor of German. Other changes are said to have occurred, but are not reported.

NEW BUILDING.

The new university-hall, the foundations of which were laid at the commencement of 1872, is now nearly complete, and will greatly enlarge the facilities for instruction and business. With a front of 347 feet and a dome reaching to a height of 140, it will contain eleven new lecture-rooms, offices for the regents, the president, the faculty, and the steward, a waiting-room for ladies, and a spacious hall meant to accommodate from 2,500 to 3,000 hearers at lectures, exhibitions, and commencements. The total cost will be over \$100,000.

ALBION COLLEGE, ALBION.

On Wednesday, June 18, a class of seven graduated, 2 receiving the degree of A. B. and 5 that of Sc. B. The degree of A. M. was conferred in course on 5 and that of Master of Science on 3.

HONORARY DEGREES.

D. D.: Revs. L. R. Fisk, A. M., and Thomas Carter, A. M.—2.

BENEFACTIONS.

An endowment of \$50,000 having been promised, conditional upon the college raising \$60,000 more by September 15, 1873, Mr. David Preston, of Detroit, has succeeded in raising the \$60,000. One of the Michigan papers says that he set the example by heading the list with a magnificent donation, and then had all the members of his family give. He had till the 15th of September to raise the amount. On the 9th of September there were still \$6,000 to be raised. He did not despair, but worked, and on the 14th he raised the last dollar.

A professorship, to be called the Preston professorship, is to be established in honor of his achievement.

PUBLICATIONS.

By the college, the annual catalogue and programmes, also a semi-weekly periodical entitled *The Annalist*.

NEW COURSES.

In addition to the classical and scientific courses, which remain substantially the same, Latin and Greek scientific courses have been adopted.

HILLSDALE COLLEGE, HILLSDALE.

The seventeenth annual commencement of this college occurred on Thursday, June 19, the graduating class being said to number 52, more than half of whom participated in the exercises.

DEGREES.

The degrees conferred were: In course, A. B., 10; A. M., 7; Sc. B., 21; D. B., 4. Honorary, D. D.: Rev. L. A. Dunn, president of Iowa Central College, and Rev. Benjamin F. Hays, of Bates College, Maine —2.

PROFESSORS APPOINTED.

Rev. J. J. Butler, of Lewiston, Maine, was elected to the chair of sacred literature, in the theological department, Rev. J. S. Copp to the chair of homiletics, and Rev. George T. Day, of Dover, New Hampshire, to a lectureship in the theological department.

BENEFACTIONS.

From Daniel M. Harvey, of Constantinople, \$2,500.

The endowment is being increased yearly, \$10,000 having been added during the past year, with flattering prospects for the ensuing year.

LIBRARY.

Increased by about 250 volumes.

ART-GALLERY.

From Professor George B. Gardiner, the instructor in painting and drawing, 15 oil-paintings, valued at \$750, as a nucleus for an art-gallery.

 ADRIAN COLLEGE, ADRIAN.

At the commencement, held June 18, there were conferred the following

DEGREES.

In course, A. B., 3; A. M., 2; Sc. B., 3; Sc. M., 2; Mus. B., 1. Honorary, A. M.: John S. Watts, Xenia, Ohio—1; Mus. D.: Professor James M. Thompson—1.

NEW PROFESSORS.

Two new professors have been appointed in the past year, one to the chair of natural science and one to that of Latin and Greek. Names not given. The Rev. G. B. McElroy, D. D., was also re-elected president, and accepted the office for one year.

LIBRARY.

The increase of the library during the year past has been 200 volumes.

FINANCES.

The committee on finance reported to the board of trustees, June 19, 1873, that the assets of the institution exceed its liabilities by \$137,030.72, this being exclusive of grounds, buildings, apparatus, &c., estimated to be worth \$137,000 more.

NOTEWORTHY.

It is worthy of mention, as indicative of the religious influences prevailing in this college, that all the members of the graduating class are said to have been also members of the church.

 KALAMAZOO COLLEGE, KALAMAZOO.

No degrees of any kind were conferred at the recent commencement of this college.

PROFESSOR APPOINTED.

Howard G. Coleman, A. M., has been appointed, within the year, to the chair of chemistry.

BENEFACTION.

A legacy of \$2,520 has been received from Lewis A. Taft.

LIBRARY.

Increased by gift of 97 volumes.

MUSEUM.

Gift received of a box of geological specimens of the upper peninsula of Michigan.

 OLIVET COLLEGE, OLIVET.

On Thursday, June 19, occurred the annual commencement of this college; a class of twelve graduated.

DEGREES CONFERRED.

In course, A. B., 8; A. M., 3; Sc. B., 4. Honorary, none.

NEW DEPARTMENT.

A normal department has been added within the year.

EDUCATION OF FEMALES.

In common with most of the western colleges, Olivet offers "equal advantages to students of both sexes," having a ladies'-department, as well as a classical, a scientific, and a preparatory, designed for the other sex.

BENEFACTIONS.

A pledge of \$57,000 has been made, conditional upon the raising by the college of an endowment-fund of \$51,000, and discharging a debt of \$28,000, toward which \$10,000 has been pledged.

A gift of \$250 has been received from Robert J. Dodge, esq., of New York.

LIBRARY.

Increase during the year, 412 volumes; 237 being gifts in books.

MUSEUM.

A box of specimens from the State received.

PUBLICATIONS.

By the college, the annual catalogue, a number of programmes, and a periodical entitled *The College Express*.

WISCONSIN.

WISCONSIN STATE UNIVERSITY, MADISON.

Commencement-week opened on Sunday, June 15, with the baccalaureate-sermon by President Twombly. The law-class was addressed on Monday by Mr. E. G. Ryan, of Milwaukee; the literary societies on Tuesday evening by the Rev. Mr. Allison, and the alumni on Wednesday evening by G. W. Bird, esq., of Jefferson.

DEGREES.

Thursday, the 19th, was commencement-day, when the following degrees were conferred: In course, A. B., 5; B. C. E., 3; Ph. D., 14; LL. B., 25. Honorary, LL. D.: Governor C. C. Washburn and E. G. Ryan, of Milwaukee—2.

DEPARTMENTS.

The plan of this university embraces (1) a college of arts, (2) a college of letters, and (3) such professional and other colleges as from time to time may be added thereto. The college of arts has a curriculum of instruction in the mathematical, physical, and natural sciences, with their application to the industrial arts. That of letters embraces a liberal course of instruction in languages, literature, and philosophy. Under the third head are at present embraced a law-school and a female-college, the course in which last is the same as that of the college of arts, with certain allowed substitutes, and the students in which recite with the college-classes in the male-department or receive separate instruction, as they may prefer. There is also a post-graduate course for such graduates as may be willing to devote two years to study as candidates for the degree of Doctor of Philosophy.

RACINE COLLEGE, RACINE.

RACINE COLLEGE, RACINE.

Commencement-week here opened with early chapel-service, at 7.30 on Sunday morning, and celebration of the holy communion, the service a full choral one and the singing by a surpliced choir.

The exercises of commencement-day came June 9, and were opened with prayer by the bishop of the diocese, the Right Reverend W. Armitage, D. D.

DEGREES.

The degrees conferred were as follows: In course, A. B. 17; A. M., 5. Honorary, D. D.: Rev. G. W. Dean, of Freeport, Illinois, and Rev John Henry Hopkins, of Plattsburg, New York—2; LL. D.: Mr. Robert W. Laing, of Portland, Oregon—1.

SPECIAL SCHOOL.

A scientific school has been added.

PROFESSOR APPOINTED.

A professor of physics and astronomy has been appointed, and the chair of Latin and Greek has been divided.

LIBRARY.

Additions received to the number of 390 volumes.

NEW BUILDING.

A building for the Greek school, valued at \$10,000, has been erected during the year by college-funds.

PUBLICATIONS.

The annual college-catalogue, with a periodical entitled the *College Mercury*.

PLEASING PECULIARITY.

Racine is particularly notable for the good order and fine taste which prevail throughout the college grounds and buildings, and the *College Mercury* says, with a just pride: "Few who during the past week spent a long enough time at the college to notice the beauty of its grounds but were struck with the order in which—though in the midst of more than 200 young men and boys—the lawns and gardens have been constantly preserved. The walks were neat and well kept, the grass fresh and green, the flowers and plants which line the walks as vigorous and beautiful as those which enjoy the seclusion of a greenhouse. In fact, the grounds were never more handsome, nor could have been, under the most scrupulous care of a private owner. It would be impossible to estimate how much of the enjoyment of commencement is due to this order which pervades the place. It is not only in the care of the grounds that it is seen, but in other matters, of whose order and beauty the neatness of the lawns and gardens is but the index."

DISCIPLINE.

The perfection of discipline evinced in the order above noted is said to run through everything, the intercourse of students and professors

being based on that mutual affection and respect which marks the on-goings of a perfectly united household. A diligence in study-hours and an activity in play-hours, which leave no room for foolish mischief, are maintained not more by the authority of officers than by the hearty co-operation of the students with them, the issue being, in the mass of cases, a happy combination of fine scholarship with a robust *physique* and a fresh and manly spirit.

MILTON COLLEGE, MILTON.

The exercises of commencement-week closed on Wednesday, July 2, with the customary essays and orations, which in this case were delivered by six young ladies and seven young gentlemen.

DEGREES.

In course, A. B., 1; Sc. B., 1; with three teachers' diplomas to graduates in the teachers' course. Honorary, A. B.: A. R. Crandall, of Cambridge, Massachusetts—1; A. M.: Albert Salisbury, of Whitewater—1; Sc. M.: Miss Jessie B. Thayer, of Menomonee—1; with a special Laureate of Arts to Miss Jane C. Bond, of Milton—1.

BENEFACCTIONS.

In small donations, \$4,000 have been received during the year.

LIBRARY.

The library has been increased by 30 volumes given.

PUBLICATION.

By Professor Searing, *First Six Books of the Iliad*, A. S. Barnes & Co., New York.

NORTHWESTERN UNIVERSITY, WATERTOWN.

At the last commencement of this institution, occurring Wednesday, June 26, the degree of A. B. was conferred upon 6 graduates.

PROFESSOR APPOINTED.

Dr. A. F. W. Notz was appointed to the chair of Latin language and literature.

LIBRARY.

This has received an increase of 300 volumes.

NEW BUILDING.

A building valued at \$3,000 has been erected during the year for the residence of the president.

PUBLICATIONS.

A volume entitled *Quæ sint propria Gymnasiorum Lutheranorum dilucidavit*, A. F. W. Notz, Ph. D., 4^o, 127 pp., distributed gratuitously. By the university, one catalogue in the German and one in the English language.

 BELOIT COLLEGE, BELOIT.

The baccalaureate-sermon was delivered on Sunday, June 29, by President Chapin, this being, it is stated, the twentieth time that the worthy president has addressed words of wise and friendly counsel to those about to leave his care.

Commencement took place on Wednesday, when a class of 13 graduated and received the degree of A. B. One of these, Gregory Michaelian, a native of Turkey, who came here to study our institutions and obtain an education, would seem, from his graduating oration upon "True republicanism the demand of our age," to have become an enthusiastic advocate of the principle that "all men are equal." Having obtained a college-education amid many discouragements, he now intends to pursue medical studies somewhere, with a view of laboring as a Christian physician in his native land.

The degree of A. M. was conferred in course upon 10 gentlemen.

NEW PROFESSORSHIP.

A chair of natural history, embracing botany, zoölogy, mineralogy, and geology, has been established, to be endowed and filled as soon as possible. Professor Thomas C. Chamberlin has been elected to fill it when endowed; meantime he supplies a vacancy in the chair of physics.

LIBRARY.

This has received the addition of 100 volumes.

NEW BUILDING.

A gymnasium is nearly completed, having cost about \$3,000, all of which was contributed by students and alumni of the college.

PUBLICATIONS.

These include the annual college-catalogue and commencement-programmes.

LAWRENCE UNIVERSITY, APPLETON.

At the commencement, on Thursday, June 26, 11 graduates of the scientific department received the degree of Sc. B. and 3 that of Sc. M. In the classical department, 4 graduates of three years' standing received that of A. M. in course. No honorary degrees.

NEW DEPARTMENTS.

A department of modern history and language has been added within the year. A course in civil engineering and a conservatory of music are also contemplated.

NEW PROFESSOR.

James H. Worman, A. M., has been elected to the chair of modern history and language.

BENEFACTIONS.

Gifts to the value of \$10,000 have been received in subscriptions and notes of moderate amount.

LIBRARY.

The increase of the library has been about 400 volumes.

FINANCIAL CONDITION.

In a published "financial exhibit," the productive property of the university is set down at \$67,523.13; the unproductive, including the college building, grounds, apparatus, and unoccupied real estate, at \$130,230. Total, \$197,753.13.

 RIPON COLLEGE, RIPON.

At the last commencement of this college, Wednesday, June 25, a class of 12 graduated; upon 5 of whom was conferred the degree of A. B. and upon 7 that of Sc. B. The degree of A. M. was conferred in course on 1.

PROPOSED DEPARTMENT.

It is proposed to establish a department for physical culture during the year.

BENEFACTIONS.

About \$7,000 in money have been donated to the college since last commencement.

LIBRARY.

This has been increased by 300 volumes, 150 of which are books given.

PUBLICATION.

By the institution, the annual college-catalogue.

GALESVILLE UNIVERSITY, GALESVILLE.

At the commencement of this institution, which occurred on Thursday, June 26, a class of 2 graduated, receiving the degree of A. L. M., (*Anglicanum Literarum Magistra.*)

Gentlemen and ladies are educated together in this university.

A special feature is that disabled soldiers are admitted free, and, likewise, all others who are incapacitated for manual labor and cannot well afford to pay tuition-fees.

MINNESOTA.

UNIVERSITY OF MINNESOTA, MINNEAPOLIS.

Although twenty-two years have elapsed since this institution received its charter and six since it was first opened for students, it did not have a regular "commencement" till June 19 of the present year. The occasion excited, hence, great interest. The governor of the State, three ex-governors, numerous Congressmen, and other distinguished visitors honored the college with their presence.

DEGREES.

The graduates were 2* young men, respecting whose attainments high testimonials were given. Each received the degree of A. B. No honorary degrees are reported.

NOTABLE WORDS.

The Hon. A. S. Welch, in an oration delivered at the commencement, put in a strong plea for a thorough scientific as well as a thorough classic culture. Among other noteworthy things in his eloquent address, he said :

"But let us set forth this new education in a strong light, and give to it, if we are able, a sharp outline. In the first place, as to its purpose. The old education seeks to elevate the professions; the new education strives to help to give professions. The old education withdraws learning to venerable walls, where she is surrounded by the ceremonies and sanctities of olden time. In the new education she emerges from mystic halls, puts on the white drapery of science, comes forth into the open air and the broad sunlight; reveals to her loving pupils the secrets of nature; teaches how lightning is utilized; how ores are mined and reduced; how rivers are bridged, and mountains tunneled; how plants grow; how marshes are drained and worn-out soils fertilized; teaches how fruits, and cereals, and domestic animals may be improved; how every article of food and fabric can be produced with the least possible waste of muscle; in short, takes the laborer by the hand—the laborer once crippled by ignorance—and lifts him up with the loving injunction, 'I say unto thee, arise.' Such is the purpose of the new education, philanthropic, practical, helpful to all.

"But there is another question respecting the new education equally

* Two are reported in the various notices sent and are referred to in a speech by the president; yet an official report says three.

vital in determining its value. 'What is its effect on character?' While it gives to students a special preparation for their allotted work, does it make men—men quick in expedients, ready in emergencies, trained to affairs, deserving of public trusts; men of weight and influence and foresight—men that are not for sale? If the new education, though it makes millions of experts, fails in a matter so important as this, the failure is surely a fatal one. But it does not fail. Its great underlying law is, that youth shall study what maturity shall practice, and this maxim covers not merely the handicrafts, but the whole area of human activities, intellectual, moral, and material. If the youth has decided to become an architect, for instance, does he need to be told that he will not thereby escape being a citizen as well? And just as a knowledge of the various architectural orders and styles, a mastery of the principles of descriptive geometry, and practice in architectural draughting are essential to the successful architect, so the mastery of mental and moral philosophy, of social science, of political economy and constitutional law is essential to becoming actively and passively a model citizen. And these are the studies which, when fully grasped and applied in practice, give a man weight, and influence, and foresight—studies which round him out into the proportion and symmetry of a genuine manhood. How can one better learn to be ready in emergencies than by studying the principles from which emergencies take their rise, and how can one be trained to affairs better than by a mastery of the laws that underlie affairs? The old education, though conferring finished scholarship in special directions, seems never to have accepted these logical conclusions. It prescribes studies for the discipline they bring and affirms that their use is an incidental and a comparatively unimportant result. The new education prescribes studies for their actual uses and declares that discipline is an incidental but sure result. The old asserts that culture is gained from the particular matter studied; the new replies that culture comes largely, not from the matter studied, but from the manner of studying it, and that earnestness of effort only will beget intellectual growth. The old education, to illustrate things mental by things material, would prepare the tyro for swimming by giving him a muscular drill out of water so perfect and well balanced that, if by accident he fell into water, it might be expected he would swim anyhow. The new education puts the tyro into water, gives him all needed instruction and helps, declaring that the best preparation for the art of swimming is found in the act of swimming, and that the act, if frequently and strenuously repeated, imparts muscular vigor also.

"The learned professions and literary callings were long ago fully provided for. I would not pluck one leaf from the laurels they have gained nor cut a single branch from their established courses. I would simply ask for the grand industrial sciences and the useful arts, which have so quickened the civilization of our era, co-ordinate opportunities and co-ordinate rank. While the learning which finds its home in our univer-

sities lends effective utterance to the sublime truths of the pulpit and logical acumen to the labors of the bar, let it also help every industrial enterprise whose object it is to restore the earth to the beauty and the glory of its primeval paradise. Let it feed and clothe millions with more healthful food and warmer fabrics. Let it repeat everywhere the miracle of the loaves and fishes. Let it furnish the mechanic with better tools, better methods, and better machinery. Let it stimulate industry and cleave the wave of every sea with its traffic. Let it beautify the surrounding landscape, crown the hills with nobler dwellings, cover the fields with more nutritious grasses and finer herds, replace the wilderness with the waving harvest, bring every farm to the topmost limit of its producing capacity, and preside over every process by which the dead mold is changed into the marketable product."

RESOLUTION OF REGENTS AND FACULTY.

The board of regents, determined to aim at good quality rather than large quantity, in graduates, have passed a formal resolution declaring it to be their policy not to increase the attendance at the university at the expense of scholarship. The faculty also declare it to be their fixed purpose to stand firmly by this announcement and let no diploma be given forth which does not mean just what it says.

NEW PROFESSORSHIP.

A professorship of public health has been established, to be filled by a non-resident professor.

LIBRARY.

The accessions to the library have been about 300 volumes and as many pamphlets; the gifts, in books, 150.

MUSEUM.

Gifts to the museum in the year past, about 300.

NEW BUILDING.

A dormitory, costing \$2,500, has been erected.

PUBLICATIONS.

Annual report of regents and programme of commencement.

CARLETON COLLEGE, NORTHFIELD.

No class has yet graduated at this college, it being but recently established, and no degrees were conferred at its recent commencement.

The privileges of the college are offered to all alike, irrespective of race, nationality, or denominational preferences ; and here, also, as in a majority of our western colleges, pupils of either sex are admitted. Both sexes meet in all general exercises, are instructed in the same classes, and may take the same degrees.

BENEFACTIONS.

From Rev. H. N. Brinsmade, D. D., of Newark, New Jersey, \$5,000 in cash ; the interest to be paid him during his life-time, after which it reverts to the college.

From Miss Susan Willis, of Charlestown, Massachusetts, \$10,000, to pay indebtedness on the new hall, hence named "Willis Hall."

From the Congregational churches of the State, \$9,034.

From Robert Crane, M. D., of New Haven, Connecticut, and two others, \$500, for the purchase of philosophical instruments.

From a gentleman in New England, who withholds his name, \$10,000, to be held in trust by the college-board, and the interest appropriated in aid of students of the college who design to enter the Christian ministry.

LIBRARY.

Increased, by gift, about 400 volumes.

MUSEUM.

Also, by gift, "The Wm. H. Dunning Geological Cabinet," valued at \$10,000.

NEW BUILDING.

The new hall, just completed ; cost, \$28,000.

PUBLICATIONS.

The annual college-catalogue with sundry programmes and catalogues.

I O W A .

IOWA STATE UNIVERSITY, IOWA CITY.

As in other State-institutions of like character, the idea of a university, affording opportunities for instruction in all lines, is here carried out, and, besides the collegiate department proper, there are normal, law, and medical schools.

DEGREES.

The degrees conferred in these at the commencement in June last were: In course, A. B., 16; A. M., 1; Ph. B., 3; LL. B., 55; M. D., 31. Honorary, D. D.: Rev. Samuel M. Osmund—1; LL. D.: Hon. A. S. Welch, president of Iowa State Agricultural College—1.

NEW PROFESSORS.

One of English language and literature and one of civil engineering, the latter to fill a professorship recently created.

LIBRARY.

Increase for the year, 1,200, making, with 4,500 previously on the shelves, 5,700.

IOWA WESLEYAN UNIVERSITY, MOUNT PLEASANT.

The commencement here occurred June 18, when these degrees in course were granted: A. B., 6; A. M., 10; Sc. B., 7; Sc. M., 6.

HONORARY DEGREES.

A. M.: William Shrady, esq., New York City, and Rev. C. V. Anthony, California—2; D. D.: Rev. John Bradden, A. M., president of Central Tennessee College, Nashville, and Rev. Philander Wiley, A. M., professor in Indiana Asbury University—2; Ph. D.: Rev. Samuel A. Latimore, A. M., professor in University of Rochester—1.

TABOR COLLEGE, TABOR.

This college, situated thirty miles south of Council Bluffs, on a high prairie overlooking the Missouri Valley, graduated, the present year,

7 students, (five males and two females,) on whom was bestowed the degree of A. B. in course. One graduate of 1870 received that of A. M. in course.

HONORARY DEGREE.

The Rev. James Morris was gifted with the honorary A. M.—1.

NEW PROFESSOR.

Mr. George H. Houghton has been appointed professor of mathematics.

BENEFACTIONS.

The gifts of money made to the college since the last commencement amount to \$44,500, from donors too numerous to be named.

LIBRARY.

The purchases for the library during the year past amount to 454 volumes; the gifts of books to 366 volumes, with 65 pamphlets. Present total of volumes in library, 3,153.

MUSEUM.

The accessions to the museum in the same period have been about 100 specimens of birds and bird-skins.

WHITTIER COLLEGE, SALEM.

Under the control of the Society of Friends, this has been mainly a normal and commercial institute. With an enlarged curriculum, it now aims to afford full opportunities for collegiate education. At the commencement, held "sixth day, eighthmonth 29, 1873," after the usual salutatory, valedictory, and other orations, six ladies and four gentlemen graduated in the scientific department.

DEGREES.

In course, Sc. B., 10. Honorary, none.

NEW DEPARTMENT.

As above indicated, a collegiate department has been added to the normal and commercial.

LIBRARY AND MUSEUM.

The increase of the library during the year has been 350 volumes, of which 60 were gifts. The museum, from the same source, has received "numerous fossils."

PUBLICATIONS.

College-catalogue and commencement-programme.

CORNELL COLLEGE, MOUNT VERNON.

At the last commencement, occurring on Thursday, June 19, a class of 11 graduated.

DEGREES.

In course, A. B., 3; A. M., 7; Sc. B., 8. Honorary, D. D.: Rev. H. W. Reed—1; A. M.: J. H. Burns and George Irwin—2.

NEW DEPARTMENTS.

Two have been added, a normal department and a department for civil engineering and military tactics.

NEW PROFESSORS.

S. N. Williams, C. E., and Lieutenant I. T. Webster, U. S. A., have been appointed to chairs in the department of military science and civil engineering. Felix Fleisher has also been made professor of music and James E. Harlan professor of mathematics.

PROFESSORSHIPS ENDOWED.

Two new professorships have been created and endowed to the amount of \$10,000 each.

BENEFACTIONS.

From various parties, \$15,000; and from the alumni, \$10,000.

Two scholarships, the Davis and the West, were founded by Edward M. Davis and Wesley West.

LIBRARY.

An addition received during the year of 100 volumes.

MUSEUM.

Specimens contributed to the number of 100.

NEW BUILDING.

A gentlemen's boarding-house, worth \$10,000, has been erected during the year.

PUBLICATIONS.

The annual college-catalogue and sundry commencement-programmes, advertisements, and circulars.

GRISWOLD COLLEGE, DAVENPORT.

Because of embarrassments, which it is hoped are only temporary, there is no report from this college except of the conferring of the following degrees in course at the commencement on the last Wednesday in June: A. B., 3; A. M., 1; Sc. B., 1. No honorary degrees. The collegiate department is suspended until funds for its more efficient support can be obtained.

NORWEGIAN LUTHER COLLEGE, DECORAH.

This college confers no degrees upon its students, and only the following information has come to hand:

EXTENSION OF DEPARTMENT.

An extension of the normal department is contemplated.

LIBRARY.

This has been increased during the year by an addition of 600 volumes, 400 in books and 200 in pamphlets. A gift of \$150 was also received.

CENTRAL UNIVERSITY, PELLA.

The only information received from this college is extracted from an address by the president, before a meeting of the trustees of the college, held during the recent commencement-week. From this, it appears that the rolls contained the names of 311 students, being 79 more than in the past year. About \$1,000 has been expended in repairs upon the college-building and \$3,000 has been paid out on account of the library and apparatus.

The college-assets, exclusive of building and grounds, amount to about \$21,000, while the amount of conditional pledges has been largely increased. The report of the executive committee disclosed the fact that the endowment-fund has now reached \$15,000 and is being increased at the rate of \$1,000 per month.

MISSOURI.

UNIVERSITY OF MISSOURI, COLUMBIA.

This university, founded in 1839, suspended during the war, and revived in 1867, is in design like those of Michigan, Wisconsin, Indiana, and Minnesota, the culmination of State-efforts toward a general diffusion of knowledge and intelligence. Existing by the power of the State and for the whole body of its people, the aim is to discard from it all partisan politics and merely sectarian religion, having its officers, according to the words of a former president, "too patriotic to be partisans and too good Christians to be sectarians." The organization embraces (1) the college proper, with four courses, arts, science, letters, and philosophy; (2) the normal-school, or college of instruction in teaching, opened September, 1868; (3) the agricultural and mechanical college, September, 1870; (4) the school of mines, at Rolla, November, 1871; (5) the college of law, October, 1872; (6) the medical college, February, 1873; (7) the department of analytical and applied chemistry, May, 1873. A college of fine arts and a department of engineering are also contemplated, but delayed for want of funds. Females, as well as males, are admitted to all the classes in all the departments. At the commencement of 1872 one was admitted to the baccalaureate-grade in science, with the standing of third in her class; and at that of 1873, another, with like high standing.

Full reports of the last commencement have not reached the Bureau, but the published report of the curators gives a list of 19 who were to graduate in the baccalaureate-courses, 5 in the normal college, 5 in the school of agriculture, and 5 in that of law. The first are presumed to have received the degree of A. B. or Sc. B.; the second that of Normal Graduate; the third, of Agr. B.; and the fourth, of LL. B.

HONORARY DEGREES.

The honorary degrees conferred were—Ph. D.: Professor C. P. Williams, of the school of mines, Rolla, and Professor C. V. Riley, State-entomologist of Missouri—2; Sc. M.: R. B. Price, Columbia, Jno. T. Heard, Sedalia, and G. C. Broadhead, State-geologist—3; A. M.: Thomas L. Napton—1; D. D.: Rev. J. D. Vencil, Columbia—1; LL. D.: Edward, Wyman, esq., Saint Louis, Dr. J. G. Norwood, of the State University, Regent J. B. Bowman, University of Kentucky, and Rev. Dr. Cyrus Nutt, President of Indiana State University—5.

WESTMINSTER COLLEGE, FULTON.

Commencement occurred on Thursday, June 19.

DEGREES.

In course, Sc. B., 2; A. B., 7. Honorary, A. M.: Rev. O. S. Thompson—1.

ST. VINCENT COLLEGE, CAPE GIRARDEAU.

The thirtieth annual commencement of this college occurred on Tuesday, June 17.

DEGREES.

In course, A. B., 3; A. M., 1.

LIBRARY.

Increased by a few volumes of current literature and by gift of sundry congressional documents.

NEW BUILDING.

One has been erected, at a cost of \$16,000.

ST. JOSEPH COLLEGE, ST. JOSEPH.

No information relative to the recent commencement of this college is at hand. The date of its incorporation and authorization to confer degrees being so recent as 1872, the college has probably not yet graduated a class.

GRAND RIVER COLLEGE, EDINBURGH.

This institution is in its infancy, and had no graduates at its last commencement, although two graduated the previous year. Its privileges are open to students of either sex.

WILLIAM JEWELL COLLEGE, LIBERTY.

No information relative to the recent commencement of this college is received.

Tuition is free to sons of ministers of all denominations who are living by the ministry, as well as to all who are studying for the ministry;

and young men of the Baptist denomination, who have the ministry in view, receive additional aid to the amount of about \$3 per week.

LIBRARY.

Contains nearly 3,000 volumes, including the principal encyclopedias, and many rare and choice works. A large increase to it is expected soon.

CENTRAL COLLEGE, FAYETTE.

Commencement occurred on Wednesday, June 25, when 17 students graduated from the several departments.

DEGREES.

A. B., 1; A. M., 2; and Ph. B., 1. No honorary degrees.

ADDITION CONTEMPLATED.

The addition of a commercial school during the coming year is contemplated.

APPOINTMENT OF INSTRUCTOR.

In the classical and mathematical departments one (each?)

LIBRARY.

Increased by receipt of some Smithsonian contributions.

MUSEUM.

Has received gifts of many valuable specimens—animal, vegetable, and mineral.

PUBLICATIONS.

The annual catalogue and sundry commencement-programmes, and by the college *The Central Collegian*, a monthly periodical.

McGEE COLLEGE, COLLEGE MOUND.

Commencement-day was Thursday, June 26.

DEGREES IN COURSE.

In the classical department, A. B., 5, and A. M., 1; in the scientific, Ph. B., 1, and A. M., (*Artium Magistra*), 3.

HONORARY DEGREES.

Ph. B.: B. R. Dysart and E. P. Pharr—2; Sc. B.: B. G. Dysart and W. P. Dysart—2.

NEW PROFESSORS.

In the preparatory department, two. The appointment of two additional teachers in this department is also contemplated.

LIBRARY.

Increased by 20 volumes.

PUBLICATIONS.

The annual catalogue, two copies of the *McGee College Record*, and seven commencement-programmes.

NEBRASKA.

UNIVERSITY OF NEBRASKA, LINCOLN.

Still in its infancy, this institution of the border graduated at its late commencement but 2 students from its School of Science, both of whom received the degree of Ph. B. No honorary degrees are noted.

DEPARTMENTS.

By act of the legislature constituting the university, provision is made for six departments, or colleges, two of which have been organized. And as the institution is by law a part of the educational system of the State, tuition in its various departments is free to all citizens who are qualified to enter, without regard to sex or race.

NEW PROFESSOR.

A new assistant professor of chemistry has been appointed; name not given.

LIBRARY.

The library has received an appropriation of \$200 from the board of regents.

MUSEUM.

The museum has received from the State "relics," not specified, and from Hon. S. F. Nuckolls, Salt Lake City, "valuable mineralogical specimens."

PUBLICATIONS.

Annual catalogue, chancellor's report, botanical report and analysis of soils, and an address before the university by Judge S. Crownse.

KANSAS.

BAKER UNIVERSITY, BALDWIN CITY.

Commencement occurred on Wednesday, June 18, when a class of 3 graduated, of whom 1 received the degree of Sc. B. and 2 that of A. B.

BENEFACTION.

By gift, \$10,000.

ARKANSAS.

ARKANSAS INDUSTRIAL UNIVERSITY, FAYETTEVILLE.

No information relating to the recent commencement of this institution has been received, and its organization is too recent to admit of its having yet graduated a class.

Established by the State upon the basis of the congressional land-grant for the benefit of industrial education, the university aims, in addition to the stipulated technical training, to afford a general and thorough education, equal to that furnished in the best of colleges.

Its congressional endowment of 150,000 acres of land has been re-enforced by an appropriation from the State-legislature of \$50,000, while from the town and county in which it is located a donation of \$130,000 was received; and from sundry private individuals several hundred acres of valuable land.

TEXAS.

BAYLOR UNIVERSITY, INDEPENDENCE.

The commencement exercises of this university occurred on Wednesday, July 11.

DEGREES.

In course, A. B., 2.

HONORARY DEGREES.

LL. D.: Horace Clark, esq., of Houston, I. F. Hillyer, of Lockhart, and W. C. Crane—3.

LIBRARY.

Increased by receipt of 150 volumes and 200 pamphlets; the latter, gifts.

MUSEUM.

Received, by gift, 100 specimens.

CALIFORNIA.

CALIFORNIA STATE UNIVERSITY, BERKELEY.

Until this present season the efforts put forth for the establishment of what must be eventually the great university of the Pacific coast, resulted only in the laying of foundations for the two departments of letters and of science. On Tuesday evening, June 3, however, a medical department was added to these two by a formal union with the University of the San Francisco College of Medicine, School of Pharmacy, and State Dental Association. The Medical College brings along with it buildings and other property valued at \$70,000, which the regents receive into absolute possession, without any annexed conditions. A School of Law is also in the near prospect. The departments of letters and science have nine professors, five additional instructors, and one hundred and eighty-five scholars. At the commencement, held on Wednesday, July 16, a class of 12 graduated.

DEGREES IN COURSE.

In the department of letters, A. B., 5; in that of science, Ph. B., 7. No honorary degrees.

NEW BUILDINGS.

On a site, said to be of surpassing beauty, commanding a landscape varied with rolling hills and gentle slopes, the city and bay of San Francisco in full view, and the Golden Gate and Coast-range mountains in the distance, the grounds of the university are being graded and laid out, and two buildings for its use have been erected. In the southern one, called the South College, or College of Science, are well-furnished laboratories for students in agriculture and chemistry; and here also will be placed the collections of the State geological surveyors, with a valuable cabinet, and the library. In the other, the North College, or College of Letters, are lecture- and class-rooms, ranging in size from one that will hold five hundred persons to a recitation-room for twenty pupils. One of these buildings is massive and enduring, "proof, it is hoped, against the quakings of the earth and the inroads of time; the other, spacious, economical, and in a high degree convenient, but possibly liable, at some future day, to yield its place to a more solid structure."

LIBRARY.

The library already numbers 11,000 volumes. A German-American citizen of San Francisco, Michael Riese, esq., has ennobled himself by

presenting to the university the means for purchasing the valuable library of Dr. Francis Lieber, which had been offered it for \$2,000. The same gentleman is said to be meditating the making of large purchases in Europe for the filling of the shelves. From E. L. Gould, esq., of San Francisco, there has also been received a generous gift of encyclopedias and other standard works.

MUSEUM.

D. O. Mills, esq., has presented to the university for its museum, the Voy collection of objects of natural science, embracing nearly 8,000 specimens, and costing \$5,000 to the generous donor.

BENEFACTIONS.

From Edward Tompkins, esq., \$50,000 worth of land for the founding of an Oriental professorship with a view to the training of young men for intelligent intercourse with Asia. From Dr. Toland, of San Francisco, the medical-college property, valued at \$70,000. From Michael Riese and D. O. Mills, esqrs., the gifts above recorded of \$2,000 and \$5,000. From the Mechanics' Institute of San Francisco, a valuable collection of Japanese mineral and vegetable products, for the museum. From Mr. Henry Edwards, of San Francisco, a large collection of Australian plants. From H. J. Booth & Co. a five-stamp quartz-battery for the metallurgical department. From George M. Blake, esq., ten acres of land adjoining the university-site, valued at \$10,000. From the students, on commencement-day, portraits of Presidents Durant and Gilman, and from Fred. Billings, esq., a fine portrait of Bishop Berkeley, in honor of whom the site of the university is named. This last is a copy, by Professor Weir, of the admired original in the school of arts at Yale.

PERSPECTS.

From these encouraging beginnings a bright prospect for the future of the university may well be augured. The address of its valedictorian for the year, Nathan Newmark, of San Francisco, shows plainly that a high grade of training has been reached, and the spirit that breathes in those of Governor Rauch and President Gilman on commencement-day gives promise that the standard to be aimed at is a high one. The governor said among other good things:

"We do not want a university because other States have them and it is the State fashion. We do not desire it as an external evidence of our civilization, that we may bring disreputable visitors to it and make pseudomasters through the newspapers. We do not want it as an ornament as a shining jewel or glittering crown. It is for use, not show; for every-day work, not holiday attire. We want it to establish a higher standard of culture and morals. We want it not merely as a teacher

and disseminator, but as a searcher after truth, an investigator, a discoverer. We want a university not for a class or for the professions, but for the people, in sympathy with their wants, instinct with their life, aglow with their spirit, marshaling them the way they ought to go, showing by leadership and example that the educated man is not a member of a caste—a drone, a pensioner, entitled as such to the easy chair and comfortable place to be fed, clothed, and admired—but that his guild is humanity. The more educated he is, the more humane he becomes, the more impact with manhood, and the higher his obligation to manly usefulness. His university-diploma is but a certificate; his degree he must confer upon himself; his credentials must bear his own signature and seal."

The president, in the same vein, spoke thus:

"Our plans of education are disposed to include all that the past has handed down of good, all that the future may offer to us. By the study of language, philosophy, and history we inherit the rich experiences of humanity; by the study of natural science we search after the laws of creation and reach out for the divine. Art, literature, and oratory, the fruits of culture, will here, I hope, forever dwell; while geometry, chemistry, and physics, the basis of the useful arts, will likewise inspire their earnest votaries. Such is the position of the University of California, as it enters upon its home of Berkeley."

UNIVERSITY OF THE PACIFIC, SAN JOSE.

This institution is the oldest of those belonging to the Protestant denominations in the State. Its first class graduated in 1858, when Thomas H. Lane and John W. Owen received the degree of A. B. During its history the college has conferred degrees on 82 gentlemen and ladies; of whom 28 gentlemen received the degree of A. B., and 18 that of Sc. B., while of the ladies 7 received the degree of Sc. B., and 29 that of L. M.

Thursday, May 29, was commencement-day, when the college graduated its sixteenth class.

DEGREES.

In course, A. B., 3; A. M., 1, and Sc. B., 4. No honorary degrees were conferred.

BENEFACTIONS.

Donations to the endowment-fund received during the year, \$40,000.

CALIFORNIA COLLEGE, VACAVILLE.

This college has as yet graduated no class, having been in operation but two years.

NEW PROFESSORS.

Two professors in the literary department and a professor of music were appointed during the year.

LIBRARY

Has received additions of a considerable number of books and pamphlets; exact number not known.

MUSEUM.

Gifts of "a considerable number" of specimens received.

NEW BUILDINGS.

Buildings have been erected during the year, valued at \$25,000.

UNIVERSITY COLLEGE, SAN FRANCISCO.

Time of commencement not known.

DEGREES IN COURSE.

In the theological department, D. B., 2. In the medical department, M. D., 13.

DEPARTMENTS AND SCHOOLS.

Two new departments, not specified, and a commercial school, have been added during the year. The establishment of a law department is contemplated.

LIBRARY.

By gift, from George Burrows, D. D., 200 volumes.

ST. IGNATIUS COLLEGE, SAN FRANCISCO.

Under the active energy of the members of the Society of Jesus, this institution bore on its lists for the year 1872-'73, 500 pupils, preparatory and collegiate, the average attendance being 440.

At the commencement in June, 2 graduates received the degree of A. B. and 1 that of A. M. in course.

PACIFIC METHODIST COLLEGE, SANTA ROSA.

Commencement on Thursday, May 22.

DEGREES IN COURSE.

These were, A. B., 1 ; A. M., 3.

HONORARY DEGREE.

D. D.: Rev. Dabney Ball, of Baltimore, Maryland—1.

NEW SCHOOLS CONTEMPLATED.

It is contemplated to establish, during the coming year, a School of Theology and one of Law.

LIBRARY.

Increase for the year, 25 volumes.

9 E

OREGON.

STATE AGRICULTURAL COLLEGE, CORVALLIS.

At the commencement of this college, which occurred on Wednesday, June 18, a class of 4 graduated, all of whom received the degree of A. B.

CONTEMPLATED SCHOOLS.

It is contemplated to establish, during the coming year, a school of history and literature, also one of engineering.

PROFESSOR APPOINTED.

Professor B. J. Hawthorn has been appointed professor of languages, but his acceptance is uncertain.

COLLEGE-LANDS.

A note from the president of this college states that the land belonging to the institution has not yet come into market, and that hence it is not yet abreast with other institutions of a similar kind.

WILLAMETTE UNIVERSITY, SALEM.

On Thursday, June 26, a brilliant assembly is reported to have gathered from all parts of Oregon to witness the graduation of a class of 14 from this young and rising university. The graduates, 6 gentlemen and 8 ladies, appear from the reports to have done credit to their training, and one especially, a lady valedictorian, to have excited in the audience, by her excellent delivery, an enthusiasm of applause and admiration that is most unusual in college-exercises.

DEGREES.

The degrees conferred were, in course, A. B., 4; Sc. B., 10. Honorary none.

FACULTY AND STUDENTS.

The faculty of the university consists of three professors, inclusive of the president, with four lady teachers. The students, without distinction of sex, are distributed as follows: collegiate, 50; preparatory, 130; academic, 110; medical, 17; total, 307. An interesting showing, as indicating how extensively educational facilities are embraced by even so new and scattered a population as that of Oregon.

ADDENDA.

Returns from Pennsylvania colleges received too late for insertion in Circular No. 3.

PENNSYLVANIA.

WAYNESBURG COLLEGE, WAYNESBURG.

At the commencement, held in the first week of September, these degrees were granted :

IN COURSE.

A. B., 2; A. M., 6; Sc. B., 10; C. E., 3.

HONORARY.

D. D., 2. Names of recipients not given.

NEW PROFESSOR.

A new professor has been appointed to the chair of Hebrew. Name not given.

LIBRARY.

The increase of the library has amounted to 50 volumes, of which 30 were gifts.

PUBLICATION.

College Index, issued quarterly.

URSINUS COLLEGE, FREELAND.

At the first annual commencement of this new institution, which is meant to be a training-school for the ministry of the Reformed Church, 5 graduated in the theological and 5 in the collegiate department. The degrees conferred on these are not reported, but it is presumed that the latter 5 were granted that of A. B. and the former that of D. B.

HONORARY DEGREES.

D. D.: Rev. D. Ziegler, of York, Pennsylvania, and Rev. J. H. Klein, of Louisville, Kentucky—2.

WESTMINSTER COLLEGE, NEW WILMINGTON.

Commencement, last Thursday in June.

DEGREES.

In course, A. B., 21; Sc. B., 12. Honorary, D. D., 1, name not given

NEW OFFICERS.

President, E. T. Jeffers; professor of Greek, J. D. Shafer; of Latin, J. W. Stewart.

BENEFACTION.

One gift of \$1,000 from Vance Stewart, esq., since last commencement.

MUSEUM.

The museum has received by gift a set of Egyptian coins.

SUMMARY OF DEGREES CONFERRED MENTIONED IN TABLE I.

Degree.	Name of degree in full.	In course.	Honorary.
LETTERS.			
Nor. Gr.	Normal Graduate	5	.....
L. A. M.	Master of English Literature	7	.....
L. B.	Bachelor of Letters	23	.....
A. L.	Laureate of Arts	4	1
A. S.	Sister of Arts	3	.....
A. B.	Bachelor of Arts	1,861	5
A. M.	Master of Arts	735	114
PHILOSOPHY.			
Ph. B.	Bachelor of Philosophy	93	3
Ph. D.	Doctor of Philosophy	31	16
SCIENCE.			
Sc. B.	Bachelor of Science	486	2
Sc. M.	Master of Science	51	10
Sc. D.	Doctor of Science	1	.....
An. Ch.	Analytical Chemist	2	.....
Agr. B.	Bachelor of Agriculture	7	.....
B. C. E.	Bachelor of Civil Engineering	21	.....
C. E.	Civil Engineer	54	.....
B. M. E.	Bachelor of Mining Engineering	3	.....
M. E.	Mining Engineer	11	.....
C. & M. E.	Civil and Mining Engineer	6	.....
D. E.	Dynamic Engineer	2	.....
ART.			
Mus. B.	Bachelor of Music	3	.....
Mus. D.	Doctor of Music .....	.....	2
Arch. B.	Bachelor of Architecture	1	.....
THEOLOGY.			
D. B.	Bachelor of Divinity	59	.....
D. D.	Doctor of Divinity .....	.....	130
S. T. D.	Doctor of Sacred Theology .....	.....	5
MEDICINE.			
Phar. Ch.	Pharmaceutical Chemist	9	.....
Phar. B.	Bachelor of Pharmacy	1	.....
Phar. M.	Master of Pharmacy	1	.....
M. B.	Bachelor of Medicine	1	.....
M. D.	Doctor of Medicine	503	.....
D. D. M.	Doctor of Dental Medicine	5	.....
LAW.			
LL. B.	Bachelor of Laws	504	.....
LL. D.	Doctor of Laws .....	.....	84
D. C. L.	Doctor of Civil Law .....	.....	4
Total		4,493	376

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION.		ALL CLASSES.		LETTERS.					
		All degrees.		L. B.		A. B.		A. M.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
Total.....		4,493	376	23	.....	1,861	5	735	114
ALABAMA.									
1	Howard College, Marion.....	6	.....	.....	.....	2	.....	.....	.....
2	Southern University, Greensborough.....	2	.....	.....	.....	.....	.....	2	.....
3	University of Alabama, Tuscaloosa.....	5	.....	.....	.....	2	.....	1	.....
CALIFORNIA.									
1	California State University, Berkeley.....	12	.....	.....	.....	5	.....	.....	.....
2	Pacific Methodist College, Santa Rosa.....	4	1	.....	.....	1	.....	3	.....
3	St. Ignatius College, San Francisco.....	3	.....	.....	.....	2	.....	1	.....
4	University College, San Francisco.....	15	.....	.....	.....	.....	.....	.....	.....
5	University of the Pacific, San José.....	8	.....	.....	.....	3	.....	1	.....
CONNECTICUT.									
1	Trinity College, Hartford.....	34	4	.....	.....	17	.....	15	.....
2	Wesleyan University, Middletown.....	65	9	.....	.....	34	.....	31	4
3	Yale College, New Haven.....	235	13	.....	.....	112	.....	43	9
DELAWARE.									
1	Delaware College, Newark.....	3	.....	.....	.....	.....	.....	.....	.....
2	Wesleyan Female College, Wilmington.....	6	.....	(a)	.....	1	.....	.....	.....
DISTRICT OF COLUMBIA.									
1	Columbian University, Washington.....	62	5	1	.....	2	.....	1	1
2	Georgetown College, Georgetown.....	62	2	.....	.....	11	.....	3	1
3	Howard University, Washington.....	3	.....	.....	.....	2	.....	.....	.....
4	National Deaf-Mute College, Washington.....	3	.....	.....	.....	3	.....	.....	.....
GEORGIA.									
1	Bowdon College, Bowdon.....	4	3	.....	.....	2	.....	2	2
2	Emory College, Oxford.....	30	7	.....	.....	24	.....	6	4
3	State University, Athens.....	33	2	.....	.....	15	.....	1	.....
ILLINOIS.									
1	Abingdon College, Abingdon.....	22	.....	.....	.....	7	.....	.....	.....
2	Chicago University, Chicago.....	26	7	.....	.....	14	.....	.....	3
3	Eureka College, Eureka.....	7	.....	.....	.....	3	.....	2	.....
4	Illinois College, Jacksonville.....	11	1	.....	.....	3	.....	2	.....
5	Illinois Wesleyan University, Bloomington.....	14	2	.....	.....	5	.....	5	.....
6	Knox College, Galesburg.....	6	2	.....	.....	3	.....	2	.....
7	Lombard University, Galesburg.....	10	.....	.....	.....	(b) 3	.....	3	.....
8	McKendree College, Lebanon.....	27	5	.....	.....	5	.....	6	2
9	Monmouth College, Monmouth.....	48	2	.....	.....	15	.....	19	.....
10	Northwestern College, Naperville.....	2	.....	.....	.....	1	.....	.....	.....
11	Northwestern University, Evanston.....	75	1	.....	.....	11	.....	8	.....
12	Shurtleff College, Upper Alton.....	6	3	.....	.....	3	.....	3	2
13	St. Ignatius College, Chicago.....	.....	1	.....	.....	.....	.....	.....	1
14	Westfield College, Westfield.....	4	.....	.....	.....	1	.....	.....	.....
15	Wheaton College, Wheaton.....	16	.....	.....	.....	(c) 8	.....	5	.....
INDIANA.									
1	Earlham College, Richmond.....	14	.....	.....	.....	4	.....	1	.....
2	Franklin College, Franklin.....	.....	3	.....	.....	.....	.....	.....	.....
3	Hanover College, Hanover.....	16	7	.....	.....	6	.....	6	.....
4	Indiana Asbury University.....	39	2	.....	.....	18	.....	.....	.....
5	Indiana University, Bloomington.....	98	.....	.....	.....	8	.....	6	.....
6	Moore's Hill College, Moore's Hill.....	5	2	.....	.....	1	.....	2	1
7	Union Christian College, Merom.....	3	.....	.....	.....	2	.....	.....	.....
8	Wabash College, Crawfordsville.....	.....	1	.....	.....	.....	.....	.....	.....

(a) Also L. A. M., 5.

(b) Also A. L., 4.

(c) Also A. S., 3.

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION.		ALL CLASSES.		LETTERS.					
		All degrees.		L. B.		A. B.		A. M.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
IOWA.									
1	Cornell College, Mount Vernon	18	3			3		7	2
2	Griswold College, Davenport	5				3		1	
3	Iowa State University, Iowa City	106	2			16		1	
4	Iowa Wesleyan University, Mount Pleasant	29	5			6		10	2
5	Tabor College, Tabor	8	1			7		1	1
6	Whittier College, Salem	10							
KANSAS.									
1	Baker University, Baldwin City	3				2			
KENTUCKY.									
1	Berea College, Berea	3				3			
2	Centre College, Danville	24	6			15		8	1
3	Eminence College, Eminence	4				4			
4	Georgetown College, Georgetown	9				3			
5	Kentucky University, Lexington	20				4		1	
LOUISIANA.									
1	Louisiana State University, Baton Rouge	5				1		1	
2	Straight University, New Orleans	4	2						1
MAINE.									
1	Bates College, Lewiston	24	4			18		6	1
2	Bowdoin College, Brunswick	71				40		17	
3	Colby University, Westville	13	8			10		3	3
MARYLAND.									
1	St. John's College, Annapolis	9	2			8		1	
2	Western Maryland College, Westminster	9	3			9			
MASSACHUSETTS.									
1	Amherst College, Amherst	72	6			54		18	2
2	College of the Holy Cross, Worcester	7				7			
3	Harvard University, Cambridge	219				129			
4	Massachusetts Agricultural College, Amherst	13							
5	Tufts College, College Hill	24				13			
6	Williams College, Williamstown	27	13			22		5	7
7	Worcester Free Institute of Industrial Science, Worcester	18							
MICHIGAN.									
1	Adrian College, Adrian	11	2			3		2	1
2	Albion College, Albion	15	2			2		5	
3	Hillsdale College, Hillsdale	42	2			10		7	
4	Olivet College, Olivet	15				8		3	
5	University of Michigan, Ann Arbor	115	2			40	1	20	
MINNESOTA.									
1	University of Minnesota	2				2			
MISSISSIPPI.									
1	Pass Christian College, Pass Christian	2	2			2			1
2	University of Mississippi, Oxford C. H.	25				13		2	
MISSOURI.									
1	Central College, Fayette	4				1		2	
2	McGee College, College Mound	10	4			5		4	
3	St. Vincent College, Cape Girardeau	4				3		1	
4	University of Missouri, Columbia	34	12	(a)		19			1
5	Westminster College, Fulton	9	1			7			

(a) Also Nor. Gr., 5.

IN 1873 BY THE INSTITUTIONS MENTIONED—Continued.

SCIENCE. *															
Sc. B.		Sc. M.		B. C. E.		C. E.		B. M. E.		M. E.		C. & M. E.		D. E.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
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(a) Also Sc. D., 1.

(b) Also Agr. B., 5.

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION.		ALL CLASSES.		LETTERS.					
		All degrees.		L. B.		A. B.		A. M.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
NEBRASKA.									
1	University of Nebraska, Lincoln	2							
NEW HAMPSHIRE.									
1	Dartmouth College, Hanover	125	14			72		17	9
NEW JERSEY.									
1	College of New Jersey, Princeton	151	7			76		75	1
2	Rutgers College, New Brunswick	68	12			26		18	2
3	Seton Hall College, South Orange	12	1			7		5	1
NEW YORK.									
1	Alfred University, Alfred	11				7		4	
2	College of the City of New York, New York	38				14		2	
3	College of St. Francis Xavier, New York	21				13		8	
4	Columbia College, New York	183	10			20		17	3
5	Cornell University, Ithaca	92		3		17		1	
6	Hobart College, Geneva	21	1			13		6	
7	Ingham University, Le Roy	5				3			
8	Madison University, Hamilton	49	5			7		7	2
9	Rutgers Female College, New York	2		1		9		4	
10	St. John's College, Fordham	13				2			
11	St. Lawrence University, Canton	15				2			
12	St. Stephen College, Anandale	14				14			
13	Syracuse University, Syracuse	12	8			3		6	2
14	Union College, Schenectady	37	13			20		12	4
15	University of Rochester, Rochester	35	3			20		12	
16	University of New York, New York	118	11			6		4	1
17	Vassar College, Poughkeepsie	49				47		2	
NORTH CAROLINA.									
1	Trinity College, Trinity College P. O.	15	5			9		6	4
2	University of North Carolina, Chapel Hill ..		1						
3	Wake Forest College, Forestville	6				3			
OHIO.									
1	Antioch College, Yellow Springs	4				3		1	
2	Baldwin University, Berea	15	3			3		6	1
3	Capital University, Columbus	18				7		6	
4	Cincinnati Wesleyan College, Cincinnati ..	19	1			9		1	1
5	Dennison University, Granville	6	3			4			2
6	Heidelberg College, Tiffin	9				3			
7	Hiram College, Hiram	12				6		2	
8	Kenyon College, Gambier	16				8		7	
9	Marietta College, Marietta	15	3			10		5	1
10	Miami University, Oxford	2							
11	Mount Union College, Mount Union	2							
12	Ohio University, Athens	12	1			7		5	1
13	Ohio Wesleyan University, Delaware	72	6			42		30	4
14	One-Study University, Scioto	19	1			5		1	1
15	Otterbein University, Westerville	10	2			1		6	
16	University of Wooster, Wooster	38				12			
17	Western Reserve College, Hudson	52				16		7	
18	Westfield College, Westfield	3				1			
19	Wilberforce University, Xenia	6	5			4			2
20	Wittenberg College, Springfield	20				11		9	
OREGON.									
1	State Agricultural College, Corvallis	4				4			
2	Willamette University, Salem	24				4			

IN 1873 BY THE INSTITUTIONS MENTIONED—Continued.

SCIENCE.															
Sc. B.		Sc. M.		B. C. E.		C. E.		B. M. E.		M. E.		C. & M. E.		D. E.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
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(a) Also Agr. B. 2.

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION.		ALL CLASSES.		LETTERS.					
		All degrees.		L. B.		A. B.		A. M.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
PENNSYLVANIA.									
1	Agricultural College of Pennsylvania, Centre Co.	5							
2	Dickinson College, Carlisle	18	3			18			1
3	Franklin and Marshall College, Lancaster	19	9			14		5	
4	Lafayette College, Easton	41	11			29	2		1
5	Lebanon Valley College, Annville	4	1			1		1	
6	Lehigh University, South Bethlehem	5							
7	Lincoln University, Oxford	11				11			
8	Muhlenberg College, Allentown	26				19		7	
9	Pennsylvania College, Gettysburg	31	2			15	1	16	
10	Polytechnic College of Pennsylvania, Philadelphia	19				17		2	
11	Swarthmore College, Swarthmore	6				6			
12	University at Lewisburg, Lewisburg	16	5			10		3	2
13	University of Pennsylvania, Philadelphia	161	2			25		13	
14	Ursinus College, Freeland	10	2			5			
15	Waynesburg College, Waynesburg	21	2			2		6	
16	Westminster College, New Wilmington	33	1			21			
RHODE ISLAND.									
1	Brown University, Providence	59	7			30		19	3
SOUTH CAROLINA.									
1	College of Charleston, Charleston	8				5		3	
2	Newberry College, Walhalla	5				1		4	
3	Wofford College, Spartanburg	18				14		3	
TENNESSEE.									
1	Cumberland University, Lebanon	84	3			15		5	
2	East Tennessee University, Knoxville	6				4			
3	Greenville and Tusculum College, Greenville	5	2			2		3	
4	King College, Bristol	14				14			
5	Maryville College, Maryville	7				7			
6	Union University, Murfreesborough	6	1			2		4	1
7	University of the South, Sewanee		3						
TEXAS.									
1	Baylor University, Independence	2	3			2			
VERMONT.									
1	Middlebury College, Middlebury	9	4			9			2
2	Norwich University, Northfield	12	2			9			2
3	University of Vermont and State Agricultural College, Burlington	12				12			
VIRGINIA.									
1	College of William and Mary, Williamsburg	3	6			1		2	
2	Hampden Sidney College, Hampden Sidney	7	2			7			2
3	Richmond College, Richmond	11	1	8				3	
4	Roanoke College, Salem	20	1			11		9	
5	University of Virginia, near Charlottesville	44				1		3	
6	Washington and Lee University, Lexington	31	7	10		8		5	
WEST VIRGINIA.									
1	West Virginia University, Morgantown	14				7		1	
WISCONSIN.									
1	Beloit College, Beloit	23				13		10	
2	Galesville University, Galesville	2		(a)					
3	Lawrence University, Appleton	18						4	
4	Milton College, Milton	2	4		(b)	1	1		1
5	Northwestern University, Watertown	6				6			
6	Racine College, Racine	22	3			17		5	
7	Ripon College, Ripon	13				5		1	
8	Wisconsin State University, Madison	47	2			5			

(a) Also L. A. M., 2.

(b) Also A. L., 1.

IN 1873 BY THE INSTITUTIONS MENTIONED—Continued.

SCIENCE.															
Sc. B.		Sc. M.		B. C. E.		C. E.		B. M. E.		M. E.		C. & M. E.		D. E.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
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(a)															
3															
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10						3									
12															

(a) Also An. Ch., 2.

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION.		ALL CLASSES.		LETTERS.					
		All degrees.		L. B.		A. B.		A. M.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
IOWA.									
1	Cornell College, Mount Vernon	13	3			3		7	2
2	Griswold College, Davenport	5				3		1	
3	Iowa State University, Iowa City	106	2			16		1	
4	Iowa Wesleyan University, Mount Pleasant	29	5			6		10	2
5	Tabor College, Tabor	8	1			7		1	1
6	Whittier College, Salem	10							
KANSAS.									
1	Baker University, Baldwin City	3				2			
KENTUCKY.									
1	Berea College, Berea	3				3			
2	Centre College, Danville	24	6			15		8	1
3	Eminence College, Eminence	4				4			
4	Georgetown College, Georgetown	9				3			
5	Kentucky University, Lexington	20				4		1	
LOUISIANA.									
1	Louisiana State University, Baton Rouge	5				1		1	
2	Straight University, New Orleans	4	2						1
MAINE.									
1	Bates College, Lewiston	24	4			18		6	1
2	Bowdoin College, Brunswick	71				40		17	
3	Colby University, Westville	13	8			10		3	3
MARYLAND.									
1	St. John's College, Annapolis	9	2			8		1	
2	Western Maryland College, Westminster	9	3			9			
MASSACHUSETTS.									
1	Amherst College, Amherst	72	6			54		18	2
2	College of the Holy Cross, Worcester	7				7			
3	Harvard University, Cambridge	219				129			
4	Massachusetts Agricultural College, Amherst	13							
5	Tufts College, College Hill	24				13			
6	Williams College, Williamstown	27	13			22		5	7
7	Worcester Free Institute of Industrial Science, Worcester	18							
MICHIGAN.									
1	Adrian College, Adrian	11	2			3		2	1
2	Albion College, Albion	15	2			2		5	
3	Hillsdale College, Hillsdale	42	2			10		7	
4	Olivet College, Olivet	15				8		3	
5	University of Michigan, Ann Arbor	115	2			40	1	20	
MINNESOTA.									
1	University of Minnesota	2				2			
MISSISSIPPI.									
1	Pass Christian College, Pass Christian	2	2			2			1
2	University of Mississippi, Oxford C. H.	25				13		2	
MISSOURI.									
1	Central College, Fayette	4				1		2	
2	McGee College, College Mound	10	4			5		4	
3	St. Vincent College, Cape Girardeau	4				3		1	
4	University of Missouri, Columbia	34	12 (a)			19			1
5	Westminster College, Fulton	9	1			7			1

(a) Also Nor. Gr., 5.

IN 1873 BY THE INSTITUTIONS MENTIONED—Continued.

THEOLOGY.				MEDICINE.						LAW.			
D. B.		D. D.		M. B.		M. D.		D. D. M.		LL. B.		LL. D.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
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(a) Also Phar. M., 1.

(b) Also Phar. Ch., 9.

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION		PHILOSOPHY.				ART.			
		Ph. B.		Ph. D.		Mus. B.		Mus. D.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
NEBRASKA.									
1	University of Nebraska, Lincoln.....	2							
NEW HAMPSHIRE.									
1	Dartmouth College, Hanover.....								
NEW JERSEY.									
1	College of New Jersey, Princeton.....								
2	Rutgers College, New Brunswick.....				1				
3	Seton Hall College, South Orange.....								
NEW YORK.									
1	Alfred University, Alfred.....								
2	College of the City of New York, New York.....								
3	College of St. Francis Xavier, New York.....								
4	Columbia College, New York.....	2							
5	Cornell University, Ithaca.....	6		1		(a)			
6	Hobart College, Geneva.....								
7	Ingham University, Le Roy.....					2			
8	Madison University, Hamilton.....								
9	Rutgers Female College, New York.....								
10	St. John's College, Fordham.....								
11	St. Lawrence University, Canton.....								
12	St. Stephen College, Anandale.....								
13	Syracuse University, Syracuse.....			1					
14	Union College, Schenectady.....								
15	University of Rochester, Rochester.....								
16	University of New York, New York.....				3				
17	Vassar College, Poughkeepsie.....								
NORTH CAROLINA.									
1	Trinity College, Trinity College P. O.....								
2	University of North Carolina, Chapel Hill.....								
3	Wake Forest College, Forestville.....	3							
OHIO.									
1	Antioch College, Yellow Springs.....								
2	Baldwin University, Berea.....								
3	Capital University, Columbus.....								
4	Cincinnati Wesleyan College, Cincinnati.....								
5	Denison University, Granville.....								
6	Heidelberg College, Tiffin.....								
7	Hiram College, Hiram.....								
8	Kenyon College, Gambier.....								
9	Marietta College, Marietta.....								
10	Miami University, Oxford.....								
11	Mount Union College, Mount Union.....								
12	Ohio University, Athens.....								
13	Ohio Wesleyan University, Delaware.....								
14	One-Study University, Scio.....								
15	Otterbein University, Westerville.....								
16	University of Wooster, Wooster.....								
17	Western Reserve College, Hudson.....								
18	Westfield College, Westfield.....								
19	Wilberforce University, Xenia.....								
20	Wittenberg College, Springfield.....								
OREGON.									
1	State Agricultural College, Corvallis.....								
2	Willamette University, Salem.....								

(a) Also Arch. B. 1.

IN 1873 BY THE INSTITUTIONS MENTIONED—Continued.

THEOLOGY.				MEDICINE.						LAW.			
D. B.		D. D.		M. B.		M. D.		D. D. M.		LL. B.		LL. D.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
													1
			2			21						3	1
			2									4	1
			17									2	2
													3
													1
													2
			(a)							139		3	3
													4
												1	5
			3										6
													7
													8
													9
7													10
			1										11
			2										12
			3									7	13
			5			74				26		(b) 1	14
													15
													16
													17
			1										1
												1	2
													3
			1									1	1
													2
													3
			1										4
													5
													6
													7
			2										8
			1									1	9
			2										10
													11
													12
			2										13
													14
			1									1	15
						25							16
													17
													18
			3										19
													20
													1
													2

(a) Also S. T. D., 4.

(b) Also D. C. L., 1.

TABLE I.—DEGREES, HONORARY AND IN COURSE, CONFERRED

INSTITUTIONS AND LOCATION.		PHILOSOPHY.				ART.			
		Ph. B.		Ph. D.		Mus. B.		Mus. D.	
		In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
PENNSYLVANIA.									
1	Agricultural College of Pennsylvania, Centre Co.								
2	Dickinson College, Carlisle								
3	Franklin and Marshall College, Lancaster								
4	Lafayette College, Easton								
5	Lebanon Valley College, Annville								
6	Lehigh University, South Bethlehem								
7	Lincoln University, Oxford								
8	Muhlenberg College, Allentown								
9	Pennsylvania College, Gettysburg				1				
10	Polytechnic College of Pennsylvania, Philadelphia								
11	Swarthmore College, Swarthmore								
12	University at Lewisburg, Lewisburg								
13	University of Pennsylvania, Philadelphia			5					
14	Ursinus College, Freeland								
15	Waynesburg College, Waynesburg								
16	Westminster College, New Wilmington								
RHODE ISLAND.									
1	Brown University, Providence	10	1						
SOUTH CAROLINA.									
1	College of Charleston, Charleston								
2	Newberry College, Walhalla								
3	Wofford College, Spartanburg								
TENNESSEE.									
1	Cumberland University, Lebanon								
2	East Tennessee University, Knoxville								
3	Greenville and Tusculum College, Greenville								
4	King College, Bristol								
5	Maryville College, Maryville								
6	Union University, Murfreesborough								
7	University of the South, Sewanee								
TEXAS.									
1	Baylor University, Independence								
VERMONT.									
1	Middlebury College, Middlebury								
2	Norwich University, Northfield								
3	University of Vermont and State Agricultural College, Burlington								
VIRGINIA.									
1	College of William and Mary, Williamsburg								
2	Hampton Sidney College, Hampton Sidney								
3	Richmond College, Richmond								
4	Roanoke College, Salem								
5	University of Virginia, near Charlottesville								
6	Washington and Lee University, Lexington			3					
WEST VIRGINIA.									
1	West Virginia University, Morgantown								
WISCONSIN.									
1	Beloit College, Beloit								
2	Galesville University, Galesville								
3	Lawrence University, Appleton								
4	Milton College, Milton								
5	Northwestern University, Watertown								
6	Racine College, Racine								
7	Ripon College, Ripon								
8	Wisconsin State University, Madison				14				

IN 1873 BY THE INSTITUTIONS MENTIONED—Concluded.

THEOLOGY.				MEDICINE.						LAW.			
D. B.		D. D.		M. B.		M. D.		D. D. M.		I. L. B.		LL. D.	
In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.	In course.	Honorary.
			1										1
			5										2
			5										3
			1										4
													5
													6
													7
													8
													9
													10
			2										11
			1			99				8		1	12
5			2									1	13
			2										14
			2										15
			1										16
												3	1
													1
													2
													3
4			3			12				46			1
													2
												2	3
													4
													5
													6
												(a)	7
												3	1
			2										1
													2
													3
			(b) 4										1
													2
												1	3
			1										4
			5			14				18			5
												2	6
													1
													1
													2
													3
													4
													5
			2										6
												1	7
										25		2	8

(a) Also D. C. L., 3.

(b) Also S. T. D., 1.

TABLE II.—Donations and legacies made during the

Institutions and location.		All benefactions.	General purposes.	Endowment funds.
Total.....		\$4,216,886	\$1,609,997	\$1,340,705
ALABAMA.				
1	Agricultural and Mechanical College, Auburn.....	100,000	(a)100,000	.....
CALIFORNIA.				
2	California State University, Berkeley.....	137,000	(b)80,000	.....
3	University of the Pacific, San José.....	40,000	.....	40,000
CONNECTICUT.				
4	Trinity College, Hartford.....	65,000	65,000	.....
5	Wesleyan University, Middletown.....	7,750	7,500	.....
6	Yale College, New Haven.....	196,284	2,820	(c)167,115
DISTRICT OF COLUMBIA.				
7	Columbian University, Washington.....	200,000	(f)200,000	.....
GEORGIA.				
8	State University of Georgia, Athens.....	28,000	.....	.....
ILLINOIS.				
9	Abingdon College, Abingdon.....	38,000	18,000	.....
10	Eureka College, Eureka.....	23,967	4,877	(g)19,090
11	Illinois College, Jacksonville.....	66,000	.....	.....
12	Lincoln University, Lincoln.....	80,000	.....	80,000
13	McKendree College, Lebanon.....	2,500	2,500	.....
14	Monmouth College, Monmouth.....	12,000	12,000	.....
15	Northwestern College, Naperville.....	19,500	19,500	.....
16	Northwestern University, Evanston.....	35,000	10,000	.....
17	Shurtleff College, Upper Alton.....	11,250	.....	.....
18	St. Ignatius College, Chicago.....	1,300	.....	.....
19	Westfield College, Westfield.....	600	(h)600	.....
20	Wheaton College, Wheaton.....	3,800	.....	.....
INDIANA.				
21	Franklin College, Franklin.....	56,000	.....	43,000
22	Hanover College, Hanover.....	13,854	13,854	.....
23	Indiana Asbury University, Greencastle.....	27,000	27,000	.....
24	Union Christian College, Merom.....	530	.....	.....
25	Wabash College, Crawfordsville.....	50,000	50,000	.....
IOWA.				
26	Central University, Pella.....	15,000	.....	15,000
27	Cornell College, Mount Vernon.....	25,000	5,000	.....
28	Tabor College, Tabor.....	44,500	44,500	.....
KANSAS.				
29	Baker University, Baldwin City.....	10,000	10,000	.....
KENTUCKY.				
30	Centre College, Danville.....	51,150	50,000	.....
31	Georgetown College, Georgetown.....	15,000	15,000	.....
MAINE.				
32	Bates College, Lewiston.....	177,000	.....	(j)177,000
33	Bowdoin College, Brunswick.....	10,000	10,000	.....
34	Colby University, Westerville.....	500	.....	.....

(a) In real estate: conditional.

(b) In land and buildings.

(c) Collection of natural-history objects.

(d) Pledged.

(e) Annual donation.

collegiate year 1872-73 to the institutions mentioned.

Buildings and grounds.	Professorships.	Fellowships.	Scholarships.	Prizes.	New or special departments.	Library.	Museum.	Apparatus.
\$530, 610	\$289, 000	\$40, 000	\$56, 000	\$2, 100	\$246, 394	\$77, 533	\$19, 867	\$4, 680
								1
	(b)50, 000					2, 000	(c)5, 000	2
								3
								4
		10, 000	(d)150 3, 000	1, 000	11, 049	1, 300	100	5
								6
								7
25, 000								3, 000 8
	20, 000							9
16, 000	50, 000							10
								11
								12
								13
								14
	25, 000							15
10, 000			1, 000			250		16
						300	1, 000	17
3, 800								18
								19
								20
13, 000								21
								22
								23
								530 24
								25
								26
	20, 000							27
								28
								29
			(i)1, 150					30
								31
								32
								33
						500		34

(f) Pledged and conditional.

(g) \$17,690 conditional.

(h) Sundry smaller donations, amount not stated.

(i) \$150 annual donation.

(j) \$101,000 pledged and conditional; \$76,000 pledged; also, several pledges of \$100 each.

TABLE II.—Donations and legacies made during the collegiate

	Institutions and location.	All benefactions.	General purposes.	Endowment-funds.
MARYLAND.				
35	St. John's College, Annapolis.....	\$5, 000		
MASSACHUSETTS.				
36	Amherst College, Amherst.....	82, 100		
37	Harvard University, Cambridge.....	158, 075	\$1, 422	
38	Mount Holyoke Seminary, South Hadley.....	8, 500	1, 000	
39	Tufts College, College Hill.....	86, 000	85, 500	
40	Williams College, Williamstown.....	13, 635	7, 600	
41	Worcester Free Institute of Industrial Science, Worcester.....	45, 000	5, 000	
MICHIGAN.				
42	Albion College, Albion.....	110, 000		(b)\$110, 000
43	Hillsdale College, Hillsdale.....	12, 500		12, 500
44	Kalamazoo College, Kalamazoo.....	2, 520	2, 520	
45	Olivet College, Olivet.....	67, 250	(c)67, 250	
46	University of Michigan, Ann Arbor.....	1, 100		
MINNESOTA.				
47	Carleton College, Northfield.....	34, 534	14, 034	10, 000
NEW HAMPSHIRE.				
48	Dartmouth College, Hanover.....	69, 445	1, 695	
NEW JERSEY.				
49	College of New Jersey, Princeton.....	326, 000	26, 000	
50	Rutgers College, New Brunswick.....	78, 607	24, 000	
NEW YORK.				
51	Cornell University, Ithaca.....	125, 000	125, 000	
52	Ingham University, Le Roy.....	8, 500	8, 500	
53	Madison University, Hamilton.....	80, 000		30, 000
54	St. Lawrence University, Canton.....	15, 960	15, 510	
55	Union College, Schenectady.....	97, 500	33, 500	
56	Vassar College, Poughkeepsie.....	6, 000		
57	Wells College for Women, Aurora.....	100, 000		100, 000
NORTH CAROLINA.				
58	Trinity College, Trinity College Post-Office.....	2, 000	2, 000	
OHIO.				
59	Antioch College, Yellow Springs.....	2, 525	2, 500	
60	Capital University, Columbus.....	10, 000	10, 000	
61	Denison University, Granville.....	350		
62	Heidelberg College, Tiffin.....	15, 000	(f)15, 000	
63	Marietta College, Marietta.....	60, 450	(g)58, 450	
64	Ohio Central College, Iberia.....	1, 200	1, 200	
65	Ohio Wesleyan University, Delaware.....	25, 500	25, 000	
66	Otterbein University, Westerville.....	17, 000	17, 000	
67	Urbana University, Urbana.....	24, 060		24, 000
68	Western Reserve College, Hudson.....	10, 000		
69	Wilberforce University, Xenia.....	10, 000	10, 000	
70	Wittenberg College, Springfield.....	119, 000	119, 000	
PENNSYLVANIA.				
71	Franklin and Marshall College, Lancaster.....	8, 000	8, 000	
72	Lafayette College, Easton.....	1, 000	1, 000	
73	Lebanon Valley College, Annville.....	2, 800	2, 800	
74	Muhlenberg College, Allentown.....	25, 025		
75	Pennsylvania College, Gettysburg.....	11, 000	11, 000	

(a) Annual donation.

(b) \$50,000 pledged and conditional.

(c) \$57,000 pledged and conditional: \$10,000 pledged.

(d) \$4,000 pledged.

year 1872-'73 to the institutions mentioned—Continued.

Buildings and grounds.	Professorships.	Fellowships.	Scholarships.	Prizes.	New or special departments.	Library.	Museum.	Apparatus.
\$5,000								35
75,000				(a) \$100			\$7,000	36
25,200					\$130,345	\$598	\$650	37
7,500							500	38
			\$5,800			235		39
	\$40,000							40
								41
								42
								43
								44
						1,100		45
								46
10,000								500 47
60,000			2,000		5,000		750	48
220,000					100,000	40,000		49
(d) 7,050	(e) 45,000					100	(e) 2,457	50
								51
50,000								52
	14,000	(e) \$30,000				450		53
			6,000			20,000		54
								55
								56
								57
								58
						25		59
						350		60
			1,000	1,000				61
								62
						500		63
								64
							60	65
						10,000		66
								67
								68
								69
								70
								71
								72
	25,000					25		73
								74
								75

(e) Pledged.
(f) In real estate.
(g) \$55,000 pledged.

TABLE II.—*Donations and legacies made during the collegiate*

	Institutions and location.	All benefactions.	General purposes.	Endowment funds.
	PENNSYLVANIA—Continued.			
76	Swarthmore College, Swarthmore.....	\$17,000	\$15,000	.....
77	University of Pennsylvania, Philadelphia.....	14,000	14,000	.....
	RHODE ISLAND.			
78	Brown University, Providence.....	4,000	.....	.....
	TENNESSEE.			
79	Central Tennessee College, Nashville.....	35	35	.....
80	King College, Bristol.....	500	500	.....
81	Maryville College, Maryville.....	4,500	(b)4,500	.....
82	Union University, Murfreesborough.....	13,000	.....	(c)\$13,000
83	Vanderbilt University, Nashville.....	500,000	.....	500,000
	VERMONT.			
84	Middlebury College, Middlebury.....	1,500	1,500	.....
	VIRGINIA.			
85	College of William and Mary, Williamsburg.....	1,000	.....	.....
86	Richmond College, Richmond.....	24,000	24,000	.....
87	Roanoke College, Salem.....	500	500	.....
88	University of Virginia, near Charlottesville.....	30,400	.....	.....
89	Washington and Lee University, Lexington.....	21,500	(c)20,000	.....
	WEST VIRGINIA.			
90	West Virginia University, Morgantown.....	100	100	.....
	WISCONSIN.			
91	Beloit College, Beloit.....	3,000	.....	.....
92	Lawrence University, Appleton.....	10,000	10,000	.....
93	Milton College, Milton.....	4,000	4,000	.....
94	Ripon College, Ripon.....	7,000	7,000	.....

(a) Pledged.

(b) Annual donation.

year 1872-73 to the institutions mentioned—Continued.

Buildings and grounds.	Professorships.	Fellowships.	Scholarships.	Prizes.	New or special departments.	Library.	Museum.	Apparatus.
							\$2,000	76
								77
			(a) \$3,000				1,000	78
								79
								80
								81
								82
								83
								84
			1,000					85
								86
			30,400					87
			1,500					88
								89
								90
\$3,000								91
								92
								93
								94

(c) Bonds.

